



System i  
Programming  
i5/OS commands  
Starting with COMMIT (Commit)

*Version 6 Release 1*







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**Note**

Before using this information and the product it supports, be sure to read the information in "Notices," on page 919.

This edition applies to version 6, release 1, modification 0 of IBM i5/OS (product number 5761-SS1) and to all subsequent releases and modifications until otherwise indicated in new editions. This version does not run on all reduced instruction set computer (RISC) models nor does it run on CICS models.

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## Contents

<b>Commit (COMMIT)</b> . . . . .	<b>1</b>	Examples . . . . .	33
Parameters . . . . .	1	Error messages . . . . .	34
Commit identification (CMTID) . . . . .	1		
Examples . . . . .	2		
Error messages . . . . .	2		
<b>Copy Object (COPY)</b> . . . . .	<b>5</b>	<b>Copy Audit Journal Entries (CPYAUDJRNE)</b> . . . . .	<b>37</b>
Parameters . . . . .	6	Parameters . . . . .	37
Object (OBJ) . . . . .	7	Journal entry types (ENTTYP) . . . . .	38
To directory (TODIR) . . . . .	7	Output file prefix (OUTFILE) . . . . .	40
To object (TOOBJ) . . . . .	8	Output member options (OUTMBR) . . . . .	41
Symbolic link (SYMLNK) . . . . .	8	User profile (USRPRF) . . . . .	41
From CCSID (FROMCCSID) . . . . .	8	Journal receiver searched (JRNRCV) . . . . .	41
To CCSID (TOCCSID) . . . . .	9	Starting date and time (FROMTIME) . . . . .	42
Data Format (DTAFMT) . . . . .	9	Ending date and time (TOTIME) . . . . .	43
Directory subtree (SUBTREE) . . . . .	10	Examples . . . . .	44
Replace object (REPLACE) . . . . .	11	Error messages . . . . .	45
Owner (OWNER) . . . . .	11		
Authority (AUT) . . . . .	11		
From code page (FROMCODPAG) . . . . .	12	<b>Copy Configuration List (CPYCFGL)</b> . . . . .	<b>47</b>
To code page (TOCODEPAGE) . . . . .	12	Parameters . . . . .	47
Examples . . . . .	13	From configuration list (FROMCFGL) . . . . .	47
Error messages . . . . .	14	Configuration list (CFGL) . . . . .	47
		Text 'description' (TEXT) . . . . .	47
		Authority (AUT) . . . . .	48
		Examples . . . . .	48
		Error messages . . . . .	48
<b>Copyright (COPYRIGHT)</b> . . . . .	<b>17</b>	<b>Copy Document (CPYDOC)</b> . . . . .	<b>51</b>
Parameters . . . . .	17	Parameters . . . . .	51
Copyright text (TEXT) . . . . .	17	From document (FROMDOC) . . . . .	51
Examples . . . . .	17	From folder (FROMFLR) . . . . .	52
Error messages . . . . .	18	To document (TODOC) . . . . .	52
		To folder (TOFLR) . . . . .	52
		Replace document (REPLACE) . . . . .	52
		System object name (SYSOBJNAM) . . . . .	53
		Examples . . . . .	53
		Error messages . . . . .	53
<b>Compress Object (CPROBJ)</b> . . . . .	<b>19</b>	<b>Copy File (CPYF)</b> . . . . .	<b>55</b>
Parameters . . . . .	20	Parameters . . . . .	55
Object (OBJ) . . . . .	20	From file (FROMFILE) . . . . .	57
Object type (OBJTYPE) . . . . .	21	To file (TOFILE) . . . . .	57
Days unused (DAYS) . . . . .	22	From member (FROMMBR) . . . . .	58
Program option (PGMOPT) . . . . .	22	To member or label (TOMBR) . . . . .	58
Examples . . . . .	22	Replace or add records (MBROPT) . . . . .	58
Error messages . . . . .	22	Create file (CRTFILE) . . . . .	59
		Print format (OUTFMT) . . . . .	59
		Which records to print (PRINT) . . . . .	60
		Record format of logical file (RCDFMT) . . . . .	60
		Copy from record number (FROMRCD) . . . . .	60
		Copy to record number (TORCD) . . . . .	61
		Copy from record key (FROMKEY) . . . . .	61
		Copy to record key (TOKEY) . . . . .	62
		Number of records to copy (NBRRCD) . . . . .	62
		Include records by char test (INCCCHAR) . . . . .	63
		Include records by field test (INCREL) . . . . .	64
<b>Copy Object (CPY)</b> . . . . .	<b>25</b>		
Parameters . . . . .	26		
Object (OBJ) . . . . .	27		
To directory (TODIR) . . . . .	27		
To object (TOOBJ) . . . . .	28		
Symbolic link (SYMLNK) . . . . .	28		
From CCSID (FROMCCSID) . . . . .	28		
To CCSID (TOCCSID) . . . . .	29		
Data Format (DTAFMT) . . . . .	29		
Directory subtree (SUBTREE) . . . . .	30		
Replace object (REPLACE) . . . . .	31		
Owner (OWNER) . . . . .	31		
Authority (AUT) . . . . .	31		
From code page (FROMCODPAG) . . . . .	32		
To code page (TOCODEPAGE) . . . . .	32		

Record format field mapping (FMTOPT)	65
Source update options (SRCOPT)	67
Source sequence numbering (SRCSEQ)	67
Errors allowed (ERRLVL)	67
Compress out deleted records (COMPRESS)	68
Examples	68
Error messages	71

### **Copy From Directory (CPYFRMDIR) . . . 73**

Parameters	73
File label (LABEL)	73
Device (DEV)	73
System name (SYSNAME)	74
Volume identifier (VOL)	74
Sequence number (SEQNBR)	74
End of tape option (ENDOPT)	74
File expiration date (EXPDATE)	75
Examples	75
Error messages	75

### **Copy From Import File (CPYFRMIMPF) 77**

Parameters	79
From stream file (FROMSTMF)	80
From file (FROMFILE)	81
To data base file (TOFILE)	82
Replace or add records (MBROPT)	82
Stream file record length (STMFLEN)	83
From CCSID (FROMCCSID)	83
To CCSID (TOCCSID)	83
Record delimiter (RCDDLML)	84
Record format of import file (DTAFMT)	84
String delimiter (STRDLM)	84
String escape character (STRESCCHR)	85
Remove blanks (RMVBLANK)	85
Field delimiter (FLDDLML)	85
Field definition file (FLDDFNFILE)	86
Decimal point (DECPNT)	86
Decimal float rounding mode (DECFLTRND)	87
Date format (DATFMT)	87
Date separator (DATSEP)	88
Time format (TIMFMT)	88
Time separator (TIMSEP)	88
Copy from record number (FROMRCD)	89
Errors allowed (ERRLVL)	89
Error record file (ERRRCDFILE)	89
Replace or add records (ERRRCDOPT)	90
Replace null values (RPLNULLVAL)	90
Identity column (IDCOL)	90
Examples	91
Error messages	91

### **Copy From LDIF (CPYFRMLDIF) . . . 93**

Parameters	93
LDIF stream file (LDIFSTMF)	93
Instance (INSTANCE)	94
Administrator (ADMIN)	94
Replicate imported data (REPLICATE)	94
Examples	94
Error messages	95

### **Copy From PC Document (CPYFRMPCD) . . . 97**

Error messages for CPYFRMPCD	97
Parameters	97
From folder (FROMFLR)	98
To file (TOFILE)	98
From document (FROMDOC)	98
To member (TOMBR)	98
Replace or add records (MBROPT)	99
Translate table (TRNTBL)	99
Format of PC data (TRNFMT)	99
DBCS code page (TRNIGC)	100
Insert DBCS SO/SI (IGCSOSI)	100
Examples	100
Error messages	100

### **Copy From PCF File (CPYFRMPCFF) 103**

Parameters	103
From PCF file (FROMPCFF)	104
To DBCS font table (TOIGCTBL)	104
Replace font (RPLFNT)	104
Examples	105
Error messages	105

### **Copy From Query File (CPYFRMQRYF) . . . 107**

Parameters	108
From open file identifier (FROMOPNID)	108
To file (TOFILE)	108
To member or label (TOMBR)	109
Replace or add records (MBROPT)	109
Create file (CRTFILE)	109
Print format (OUTFMT)	110
Number of records to copy (NBRRCDS)	110
Record format field mapping (FMTOPT)	110
Errors allowed (ERRLVL)	111
Examples	112
Error messages	113

### **Copy From Stream File (CPYFRMSTMF) . . . 115**

Parameters	115
From stream file (FROMSTMF)	116
To file member or save file (TOMBR)	116
Member option (MBROPT)	117
Data conversion options (CVTDTA)	117
Stream file CCSID (STMFCCSID)	117
Database file CCSID (DBFCCSID)	118
Conversion table (TBL)	118
End of line characters (ENDLINFMT)	118
Tab character expansion (TABEXPN)	119
Stream file code page (STMFCODPAG)	119
Examples	120
Error messages	121

### **Copy From Tape (CPYFRMTAP) . . . 123**

Parameters	123
Tape file (FROMFILE)	124
To file (TOFILE)	124

Sequence number (FROMSEQNBR) . . . . .	125
Tape label (FROMLABEL) . . . . .	125
Member (TOMBR) . . . . .	125
Device (FROMDEV) . . . . .	126
Copy from reels (FROMREELS) . . . . .	126
Record length (FROMRCDLEN) . . . . .	127
End of tape option (FROMENDOPT) . . . . .	127
Replace or add records (MBROPT) . . . . .	128
Print format (OUTFMT) . . . . .	128
Volume identifier (FROMVOL) . . . . .	128
Block length (FROMBLKLEN) . . . . .	128
Record block type (FROMRCDBLK) . . . . .	129
Number of records to copy (NBRRCDS) . . . . .	129
Examples . . . . .	129
Error messages . . . . .	130

<b>Copy DBCS Font Table (CPYIGCTBL) . . . . .</b>	<b>131</b>
Parameters . . . . .	131
DBCS font table (IGCTBL) . . . . .	132
Copy option (OPTION) . . . . .	132
Device (DEV) . . . . .	133
File label (LABEL) . . . . .	133
Select images (SELECT) . . . . .	133
Range of images (RANGE) . . . . .	133
Replace user images (RPLIMG) . . . . .	135
Volume identifier (VOL) . . . . .	136
File expiration date (EXPDATE) . . . . .	136
Sequence number (SEQNBR) . . . . .	136
End of tape option (ENDOPT) . . . . .	136
File (FILE) . . . . .	137
Member (MEMBER) . . . . .	137
Examples . . . . .	137
Error messages . . . . .	137

<b>Copy Library (CPYLIB) . . . . .</b>	<b>139</b>
Parameters . . . . .	140
Existing library (FROMLIB) . . . . .	140
New library (TOLIB) . . . . .	140
Create library (CRTLIB) . . . . .	140
Duplicate data (DATA) . . . . .	140
Duplicate constraints (CST) . . . . .	141
Duplicate triggers (TRG) . . . . .	141
Duplicate file identifiers (FILEID) . . . . .	141
Examples . . . . .	142
Error messages . . . . .	142

<b>Copy Optical (CPYOPT) . . . . .</b>	<b>143</b>
Parameters . . . . .	143
From volume identifier (FROMVOL) . . . . .	144
From path (FROMPATH) . . . . .	144
To volume identifier (TOVOL) . . . . .	144
To path (TOPATH) . . . . .	144
Select files to copy (SLTFILE) . . . . .	145
Copy subdirectories (CPYSUBDIR) . . . . .	145
Create directory (CRTDIR) . . . . .	145
Allow copy to opposite side (ALWCPYOPP) . . . . .	146
Copy option (COPYTYPE) . . . . .	146
Starting date and time (FROMTIME) . . . . .	146
Examples . . . . .	147
Error messages . . . . .	148

<b>Copy Performance Collection (CPYPFRCOL) . . . . .</b>	<b>153</b>
Parameters . . . . .	153
From collection (FROMCOL) . . . . .	153
From library (FROMLIB) . . . . .	153
To collection (TOCOL) . . . . .	154
To library (TOLIB) . . . . .	154
Collection type (COLTYPE) . . . . .	154
Examples . . . . .	155
Error messages . . . . .	155

<b>Copy Program Temporary Fix (CPYPTF) . . . . .</b>	<b>157</b>
Parameters . . . . .	157
Product (LICPGM) . . . . .	158
From device (FROMDEV) . . . . .	158
To device (TODEV) . . . . .	158
PTF numbers to select (SELECT) . . . . .	158
PTF numbers to omit (OMIT) . . . . .	159
Release (RLS) . . . . .	159
From save file (FROMSAVF) . . . . .	159
From tape sequence number (FROMSEQNBR) . . . . .	159
From end of media option (FROMENDOPT) . . . . .	160
From path identifier (FROMPATHID) . . . . .	160
Volume identifier (TOVOL) . . . . .	161
To tape sequence number (TOSEQNBR) . . . . .	161
To end of media option (TOENDOPT) . . . . .	161
To save file (TOSAVF) . . . . .	162
Clear (CLEAR) . . . . .	162
Copy PTF cover letter (COVER) . . . . .	162
Cover letter language (CVRLTRLNG) . . . . .	162
Data compression (DTACPR) . . . . .	163
Examples . . . . .	163
Error messages . . . . .	163

<b>Copy PTF Cover Letter (CPYPTFCVR) . . . . .</b>	<b>165</b>
Parameters . . . . .	165
Device (DEV) . . . . .	165
Product (LICPGM) . . . . .	165
PTF numbers to select (SELECT) . . . . .	166
Release (RLS) . . . . .	166
Cover letter option (CVROPT) . . . . .	166
End of media option (ENDOPT) . . . . .	167
Examples . . . . .	167
Error messages . . . . .	167

<b>Copy PTF Group (CPYPTFGRP) . . . . .</b>	<b>169</b>
Parameters . . . . .	169
PTF group (PTFGRP) . . . . .	170
From device (FROMDEV) . . . . .	170
To device (TODEV) . . . . .	170
From save file (FROMSAVF) . . . . .	170
From tape sequence number (FROMSEQNBR) . . . . .	171
From end of media option (FROMENDOPT) . . . . .	171
Volume identifier (TOVOL) . . . . .	171
To tape sequence number (TOSEQNBR) . . . . .	172
To end of media option (TOENDOPT) . . . . .	172
To save file (TOSAVF) . . . . .	172
Clear (CLEAR) . . . . .	173
Replace (REPLACE) . . . . .	173

PTF group level (PTFGRPLVL) . . . . .	173
Copy related PTF groups (RELPTFGRP) . . . . .	174
Data compression (DTACPR) . . . . .	174
Copy PTFs (CPYPTF) . . . . .	174
Replace superseded PTFs (RPLSPR) . . . . .	175
Copy PTF cover letter (COVER) . . . . .	175
Examples . . . . .	175
Error messages . . . . .	176

**Copy Spooled File (CPYSPLF) . . . . . 179**

Parameters . . . . .	179
Spooled file (FILE) . . . . .	180
To data base file (TOFILE) . . . . .	180
Job name (JOB) . . . . .	180
Spooled file number (SPLNBR) . . . . .	180
Job system name (JOBSYSNAME) . . . . .	181
Spooled file created (CRTDATE) . . . . .	181
To member (TOMBR) . . . . .	182
Replace or add records (MBROPT) . . . . .	182
Control character (CTLCHAR) . . . . .	182
Channel values (CHLVAL) . . . . .	183
Examples . . . . .	183
Error messages . . . . .	184

**Copy Source File (CPYSRCF) . . . . . 187**

Parameters . . . . .	187
Data base source file (FROMFILE) . . . . .	188
To file (TOFILE) . . . . .	188
From member (FROMMBR) . . . . .	189
Member (TOMBR) . . . . .	189
To member identifier (TOMBRID) . . . . .	190
Replace or add records (MBROPT) . . . . .	190
Source change date (SRCCHGDATE) . . . . .	190
Source update options (SRCOPT) . . . . .	190
Source sequence numbering (SRCSEQ) . . . . .	191
Examples . . . . .	191
Error messages . . . . .	192

**Copy TCP/IP Host Table (CPYTCPHT) 195**

Parameters . . . . .	195
To file (TOFILE) . . . . .	195
To member (TOMBR) . . . . .	196
Replace or add records (MBROPT) . . . . .	196
Examples . . . . .	196
Error messages . . . . .	197

**Copy To Directory (CPYTODIR) . . . . . 199**

Parameters . . . . .	199
File label (LABEL) . . . . .	199
Device (DEV) . . . . .	199
Automatically initialize (AUTOINZ) . . . . .	200
Replace data (RPLDTA) . . . . .	200
Volume identifier (VOL) . . . . .	200
Sequence number (SEQNBR) . . . . .	200
End of tape option (ENDOPT) . . . . .	201
Examples . . . . .	201
Error messages . . . . .	201

**Copy To Import File (CPYTOIMPF) 203**

Parameters . . . . .	204
----------------------	-----

From file (FROMFILE) . . . . .	204
To data base file (TOFILE) . . . . .	205
To stream file (TOSTMF) . . . . .	206
Replace or add records (MBROPT) . . . . .	206
From CCSID (FROMCCSID) . . . . .	207
To CCSID (TOCCSID) . . . . .	207
Stream file CCSID (STMFCCSID) . . . . .	207
Stream file code page (STMFCODPAG) . . . . .	208
Stream file authority (STMFAUT) . . . . .	208
Record delimiter (RCDDL) . . . . .	209
Record format of import file (DTAFMT) . . . . .	209
String delimiter (STRDLM) . . . . .	210
String escape character (STRESCCHR) . . . . .	210
Remove blanks (RMVBLANK) . . . . .	211
Field delimiter (FLDDL) . . . . .	211
Null field indicator (NULLIND) . . . . .	211
Numeric field pad (NUMFLDPAD) . . . . .	211
Decimal point (DECPNT) . . . . .	212
Date format (DATFMT) . . . . .	212
Time format (TIMFMT) . . . . .	212
Examples . . . . .	212
Error messages . . . . .	213

**Copy To LDIF (CPYTOLDIF) . . . . . 215**

Parameters . . . . .	215
Instance (INSTANCE) . . . . .	215
LDIF stream file (LDIFSTMF) . . . . .	216
Administrator (ADMIN) . . . . .	216
Subtree distinguished name (SUBTREE) . . . . .	216
Copy cn=localhost (LOCALHOST) . . . . .	216
Copy cn=pwdpolicy (PWDPOLICY) . . . . .	217
Copy nested replication (NESTRPLC) . . . . .	217
Copy operational attributes (OPRATR) . . . . .	217
Passphrase (PASSPHRASE) . . . . .	217
Encryption salt (ENCSALT) . . . . .	218
Examples . . . . .	218
Error messages . . . . .	219

**Copy To PC Document (CPYTOPCD) 221**

Error messages for CPYTOPCD . . . . .	221
Parameters . . . . .	221
From file (FROMFILE) . . . . .	222
To folder (TOFLR) . . . . .	222
From member (FROMMBR) . . . . .	222
To document (TODOC) . . . . .	222
Replace document (REPLACE) . . . . .	223
Translate table (TRNTBL) . . . . .	223
Format of PC data (TRNFMT) . . . . .	223
DBCS code page (TRNIGC) . . . . .	224
Record format (RCDFMT) . . . . .	224
Examples . . . . .	224
Error messages . . . . .	224

**Copy To PCF File (CPYTOPCFF) . . . . . 227**

Parameters . . . . .	227
From DBCS font table (FROMIGCTBL) . . . . .	227
To PCF file (TOPCFF) . . . . .	228
Replace font (RPLFNT) . . . . .	228
Examples . . . . .	228
Error messages . . . . .	229



<b>Copy To Stream File (CPYTOSTMF)</b>	<b>231</b>
Parameters	231
From file member or save file (FROMMBR)	232
To stream file (TOSTMF)	232
Stream file option (STMFOPT)	232
Data conversion options (CVTDTA)	233
Database file CCSID (DBFCCSID)	233
Stream file CCSID (STMFCCSID)	233
Conversion table (TBL)	234
End of line characters (ENDLINFMT)	234
Authority (AUT)	235
Stream file code page (STMFCODPAG)	236
Examples	236
Error messages	237

<b>Copy To Tape (CPYTOTAP)</b>	<b>239</b>
Parameters	239
From file (FROMFILE)	240
Tape file (TOFILE)	240
From member (FROMMBR)	240
File sequence number (TOSEQNBR)	241
Tape label (TOLABEL)	241
Device (TODEV)	242
Copy to reels (TOREELS)	242
Record length (TORCDLEN)	242
End of tape option (TOENDOPT)	243
Volume identifier (TOVOL)	243
Block length (TOBLKLEN)	243
Record block type (TORCDBLK)	244
File expiration date (TOEXPDATE)	244
Number of records to copy (NBRRCDS)	244
Data compaction (COMPACT)	245
Examples	245
Error messages	245

<b>Create Alert Table (CRTALRTBL)</b>	<b>247</b>
Parameters	247
Alert table (ALRTBL)	247
Product (LICPGM)	248
Licensed program text (LICPGMTXT)	248
Text 'description' (TEXT)	248
Authority (AUT)	248
Examples	249
Error messages	249

<b>Create Authority Holder (CRTAUTHLR)</b>	<b>251</b>
Parameters	251
Object (OBJ)	251
Authority (AUT)	252
Examples	252
Error messages	253

<b>Create Authorization List (CRTAUTL)</b>	<b>255</b>
Parameters	255
Authorization list (AUTL)	255
Text 'description' (TEXT)	255
Authority (AUT)	256
Examples	256
Error messages	256

<b>Create Bound CL Program (CRTBNDCCL)</b>	<b>259</b>
Parameters	259
Program (PGM)	260
Source file (SRCFILE)	260
Source member (SRCMBR)	260
Text 'description' (TEXT)	261
Default activation group (DFACTGRP)	261
Activation group (ACTGRP)	261
Storage model (STGMMDL)	262
Output (OUTPUT)	262
Source listing options (OPTION)	262
User profile (USRPRF)	263
Log commands (LOG)	263
Replace program (REPLACE)	263
Target release (TGTRLS)	264
Authority (AUT)	264
Sort sequence (SRTSEQ)	265
Language ID (LANGID)	266
Optimization (OPTIMIZE)	266
Debugging view (DBGVIEW)	266
Enable performance collection (ENBPFRCOL)	267
INCLUDE file (INCFILE)	267
Examples	267
Error messages	268

<b>Create Binding Directory (CRTBNDDIR)</b>	<b>269</b>
Parameters	269
Binding directory (BNDDIR)	269
Authority (AUT)	270
Text 'description' (TEXT)	270
Examples	270
Error messages	271

<b>Create Configuration List (CRTCFGL)</b>	<b>273</b>
Parameters	273
Configuration list type (TYPE)	274
Configuration list (CFGL)	275
Default filter action (DFTFTRACN)	275
APPN remote CFGL filter (APPNRMFTFR)	275
Text 'description' (TEXT)	276
APPN local location entry (APPNLCLE)	276
APPN remote location entry (APPNRMTE)	276
Async network address entry (ASYNCADRE)	278
Async remote location entry (ASYNCCLOCE)	278
Retail pass-through entry (RTLPAsthRE)	279
Authority (AUT)	279
Examples	280
Error messages	280

<b>Create Keystore File (CRTCKMKSF)</b>	<b>283</b>
Parameters	283
Keystore file (KEYSTORE)	283
Master key (MSTKEY)	284
Authority (AUT)	284
Text 'description' (TEXT)	284
Examples	284
Error messages	285

## **Create C Locale Description (CRTCLD) . . . . . 287**

Error messages for CRTCLD . . . . .	287
Parameters . . . . .	287
Locale name (CLD) . . . . .	288
Source file (SRCFILE). . . . .	288
Source member (SRCMBR) . . . . .	289
Text description (TEXT) . . . . .	289
Source listing option (OPTION) . . . . .	289
Error listing level (LISTING) . . . . .	289
Print file (PRTFILE) . . . . .	289
Replace (REPLACE) . . . . .	290
Authority (AUT) . . . . .	290
Target Release (TGTRLS) . . . . .	291
Examples. . . . .	291
Error messages . . . . .	291

## **Create CL Module (CRTCLMOD) . . . . . 293**

Parameters . . . . .	293
Module (MODULE) . . . . .	294
Source file (SRCFILE). . . . .	294
Source member (SRCMBR) . . . . .	294
Text 'description' (TEXT) . . . . .	295
Output (OUTPUT). . . . .	295
Source listing options (OPTION) . . . . .	295
Log commands (LOG) . . . . .	296
Replace module object (REPLACE) . . . . .	296
Target release (TGTRLS) . . . . .	296
Authority (AUT) . . . . .	297
Sort sequence (SRTSEQ) . . . . .	298
Language ID (LANGID) . . . . .	298
Optimization (OPTIMIZE) . . . . .	298
Debugging view (DBGVIEW) . . . . .	299
Enable performance collection (ENBPFRCOL) . . . . .	299
INCLUDE file (INCFILE) . . . . .	299
Examples. . . . .	300
Error messages . . . . .	300

## **Create CL Program (CRTCLPGM). . . . . 303**

Parameters . . . . .	303
Program (PGM) . . . . .	304
Source file (SRCFILE). . . . .	304
Source member (SRCMBR) . . . . .	304
Text 'description' (TEXT) . . . . .	305
Source listing options (OPTION) . . . . .	305
Generation options (GENOPT) . . . . .	306
User profile (USRPRF) . . . . .	307
Log commands (LOG) . . . . .	307
Allow RTVCLSRC (ALWRTVSRC) . . . . .	307
Replace program (REPLACE) . . . . .	307
Target release (TGTRLS) . . . . .	308
Authority (AUT) . . . . .	308
Sort sequence (SRTSEQ) . . . . .	309
Language ID (LANGID) . . . . .	310
INCLUDE file (INCFILE) . . . . .	310
Examples. . . . .	310
Error messages . . . . .	311

## **Create Class (CRTCLS) . . . . . 313**

Parameters . . . . .	313
----------------------	-----

Class (CLS) . . . . .	313
Run priority (RUNPTY) . . . . .	314
Time slice (TIMESLICE) . . . . .	314
Eligible for purge (PURGE). . . . .	314
Default wait time (DFTWAIT) . . . . .	315
Maximum CPU time (CPUTIME). . . . .	315
Maximum temporary storage (MAXTMPSTG) . . . . .	315
Maximum threads (MAXTHD) . . . . .	316
Text 'description' (TEXT) . . . . .	316
Authority (AUT) . . . . .	316
Examples. . . . .	317
Error messages . . . . .	317

## **Create Command (CRTCMD). . . . . 319**

Parameters . . . . .	319
Command (CMD) . . . . .	321
Program to process command (PGM) . . . . .	321
Source file (SRCFILE). . . . .	322
Source member (SRCMBR) . . . . .	322
REXX source file (REXSRCFILE) . . . . .	323
REXX source member (REXSRCMBR) . . . . .	323
REXX command environment (REXCMDENV) . . . . .	323
REXX exit programs (REXEXITPGM) . . . . .	324
Threadsafe (THDSAFE) . . . . .	325
Multithreaded job action (MLTTHDACN) . . . . .	325
Text 'description' (TEXT) . . . . .	325
Validity checking program (VLDCR) . . . . .	326
Mode in which valid (MODE) . . . . .	326
Where allowed to run (ALLOW) . . . . .	327
Allow limited users (ALWLMTUSR). . . . .	327
Maximum positional parameters (MAXPOS) . . . . .	328
Message file for prompt text (PMTFILE) . . . . .	328
Message file (MSGF) . . . . .	329
Help bookshelf (HLP SHELF) . . . . .	329
Help panel group (HLPPNLGRP) . . . . .	330
Help identifier (HLPID) . . . . .	330
Help search index (HLP SCHIDX). . . . .	330
Current library (CURLIB) . . . . .	331
Product library (PRDLIB) . . . . .	331
Prompt override program (PMTOVRPGM) . . . . .	332
Authority (AUT) . . . . .	332
Replace command (REPLACE) . . . . .	333
Enable GUI (ENBGUI) . . . . .	333
Examples. . . . .	333
Error messages . . . . .	333

## **Create Class-of-Service Desc (CRTCOSD) . . . . . 335**

Parameters . . . . .	335
Class-of-service description (COSD) . . . . .	344
Transmission priority (TMSPTY) . . . . .	344
Row 1 for lines (ROW1LINE) . . . . .	344
Row 1 for nodes (ROW1NODE) . . . . .	346
Row 2 for lines (ROW2LINE) . . . . .	346
Row 2 for nodes (ROW2NODE) . . . . .	348
Row 3 for lines (ROW3LINE) . . . . .	348
Row 3 for nodes (ROW3NODE) . . . . .	350
Row 4 for lines (ROW4LINE) . . . . .	350
Row 4 for nodes (ROW4NODE) . . . . .	352
Row 5 for lines (ROW5LINE) . . . . .	353

Row 5 for nodes (ROW5NODE) . . . . .	354
Row 6 for lines (ROW6LINE) . . . . .	355
Row 6 for nodes (ROW6NODE) . . . . .	356
Row 7 for lines (ROW7LINE) . . . . .	357
Row 7 for nodes (ROW7NODE) . . . . .	358
Row 8 for lines (ROW8LINE) . . . . .	359
Row 8 for nodes (ROW8NODE) . . . . .	361
Text 'description' (TEXT) . . . . .	361
Authority (AUT) . . . . .	361
Examples . . . . .	362
Error messages . . . . .	362

### **Create CRQ Description (CRTCRQD) 363**

Parameters . . . . .	363
Change request description (CRQD) . . . . .	363
User profile (USRPRF) . . . . .	364
Problem identifier (PRBID) . . . . .	364
Problem Origin (PRBORG) . . . . .	364
Text 'description' (TEXT) . . . . .	365
Authority (AUT) . . . . .	365
Examples . . . . .	366
Error messages . . . . .	366

### **Create Comm Side Information (CRTCSI) 367**

Parameters . . . . .	367
Side information (CSI) . . . . .	367
Remote location (RMTLOCNAME) . . . . .	368
Transaction program (TNSPGM) . . . . .	368
Text 'description' (TEXT) . . . . .	368
Device (DEV) . . . . .	368
Local location (LCLLOCNAME) . . . . .	369
Mode (MODE) . . . . .	369
Remote network identifier (RMTNETID) . . . . .	369
Authority (AUT) . . . . .	370
Examples . . . . .	370
Error messages . . . . .	370

### **Create Ctl Desc (APPC) (CRTCTLAPPC) 373**

Parameters . . . . .	373
Controller description (CTLD) . . . . .	376
Link type (LINKTYPE) . . . . .	376
Online at IPL (ONLINE) . . . . .	378
Switched connection (SWITCHED) . . . . .	378
Short hold mode (SHM) . . . . .	379
Switched network backup (SNBU) . . . . .	379
APPN-capable (APPN) . . . . .	379
Remote internet address (RMTINTNETA) . . . . .	380
Local internet address (LCLINTNETA) . . . . .	380
LDLC timers (LDLCTMR) . . . . .	381
LDLC link speed (LDLCLNKSPD) . . . . .	382
LDLC transmission group (LDLCTMSGRP) . . . . .	383
Controller type (TYPE) . . . . .	384
Attached nonswitched line (LINE) . . . . .	385
Switched line list (SWTLINLST) . . . . .	385
Maximum frame size (MAXFRAME) . . . . .	386
Remote network identifier (RMTNETID) . . . . .	386
Remote control point (RMTCPNAME) . . . . .	387
Remote system name (RMTSYSNAME) . . . . .	387

Exchange identifier (EXCHID) . . . . .	387
Initial connection (INLCNN) . . . . .	388
Dial initiation (DIALINIT) . . . . .	389
Connection number (CNNNBR) . . . . .	389
Answer number (ANSNBR) . . . . .	389
Outgoing connection list (CNNLSTOUT) . . . . .	390
Connection list entry (CNNLSTOUTE) . . . . .	390
Data link role (ROLE) . . . . .	390
SHM disconnect limit (SHMDSCLMT) . . . . .	391
SHM disconnect timer (SHMDSCTMR) . . . . .	391
Station address (STNADR) . . . . .	391
LAN remote adapter address (ADPTADR) . . . . .	392
LAN DSAP (DSAP) . . . . .	392
LAN SSAP (SSAP) . . . . .	392
X.25 network level (NETLVL) . . . . .	393
X.25 link level protocol (LINKPCL) . . . . .	393
X.25 logical channel ID (LGLCHLID) . . . . .	393
X.25 connection password (CNNPWD) . . . . .	394
APPN CP session support (CPSSN) . . . . .	394
Remote APPN node type (NODETYPE) . . . . .	394
Branch extender role (BEXROLE) . . . . .	395
APPN/HPR capable (HPR) . . . . .	395
HPR path switching (HPRPTHSWT) . . . . .	396
APPN transmission group number (TMSGPNBR) . . . . .	396
APPN minimum switched status (MINSWTSTS) . . . . .	396
Autocreate device (AUTOCRTDEV) . . . . .	397
Autodelete device (AUTODLTDEV) . . . . .	397
User-defined 1 (USRDFN) . . . . .	397
User-defined 2 (USRDFN) . . . . .	398
User-defined 3 (USRDFN) . . . . .	398
Model controller description (MDLCTL) . . . . .	398
Connection network ID (CNNNETID) . . . . .	399
Connection network CP (CNNCPNAME) . . . . .	399
Text 'description' (TEXT) . . . . .	400
Attached devices (DEV) . . . . .	400
Character code (CODE) . . . . .	400
SSCP identifier (SSCPID) . . . . .	400
IDLC window size (IDLCWDWSIZ) . . . . .	401
IDLC frame retry (IDLCFRMRTY) . . . . .	401
IDLC response timer (IDLCRSPTMR) . . . . .	401
IDLC connect retry (IDLCCNNRTY) . . . . .	402
Predial delay (REDIALDLY) . . . . .	402
Redial delay (REDIALDLY) . . . . .	402
Dial retry (DIALRTY) . . . . .	403
Switched disconnect (SWTDSC) . . . . .	403
Disconnect timer (DSCTMR) . . . . .	403
SDLC poll priority (POLLPTY) . . . . .	404
SDLC poll limit (POLLMT) . . . . .	404
SDLC out limit (OUTLMT) . . . . .	404
SDLC connect poll retry (CNNPOLLRTY) . . . . .	405
SDLC NDM poll timer (NDMPOLLTMR) . . . . .	405
LAN frame retry (LANFRMRTY) . . . . .	405
LAN connection retry (LANCNNRTY) . . . . .	406
LAN response timer (LANRSPTMR) . . . . .	406
LAN connection timer (LANCNTMR) . . . . .	406
LAN acknowledgement timer (LANACKTMR) . . . . .	407
LAN inactivity timer (LANINACTMR) . . . . .	407
LAN acknowledgement frequency (LANACKFRQ) . . . . .	407
LAN max outstanding frames (LANMAXOUT) . . . . .	408
LAN access priority (LANACPTY) . . . . .	408
LAN window step (LANWDWSTP) . . . . .	408

X.25 switched line selection (SWTLINSLCT)	409
X.25 default packet size (DFTPKTSIZE)	409
X.25 default window size (DFTWDWSIZE)	410
X.25 user group identifier (USRGRPID)	410
X.25 reverse charging (RVSCRG)	411
X.25 frame retry (X25FRMRTY)	411
X.25 connection retry (X25CNNRTY)	411
X.25 response timer (X25RSPTMR)	412
X.25 connection timer (X25CNNTMR)	412
X.25 delayed connection timer (X25DLYTMR)	412
X.25 acknowledgement timer (X25ACKTMR)	413
X.25 inactivity timer (X25INACTMR)	413
User facilities (USRFCL)	413
Recovery limits (CMNRCYLMT)	413
Message queue (MSGQ)	414
Authority (AUT)	414
Examples	415
Error messages	415

**Create Ctl Desc (Async) (CRTCTLASC) . . . . . 417**

Parameters	417
Controller description (CTLD)	418
Link type (LINKTYPE)	418
Online at IPL (ONLINE)	418
Switched connection (SWITCHED)	419
Switched network backup (SNBU)	419
Attached nonswitched line (LINE)	419
Switched line list (SWTLINLST)	420
Initial connection (INLCNN)	420
Connection number (C>NNNBR)	420
Answer number (ANSNBR)	421
X.25 logical channel ID (LGLCHLID)	421
Text 'description' (TEXT)	421
Attached devices (DEV)	421
Predial delay (PREDIALDLY)	422
Redial delay (REDIALDLY)	422
Dial retry (DIALRTY)	422
Switched disconnect (SWTDSC)	423
File transfer ack timer (ACKTMR)	423
File transfer retry (RETRY)	423
Remote verify (RMTVIFY)	423
Local location (LCLLOCNAME)	424
Local identifier (LCLID)	424
PAD Emulation (PADEML)	424
X.25 switched line selection (SWTLINSLCT)	424
X.25 default packet size (DFTPKTSIZE)	425
X.25 default window size (DFTWDWSIZE)	425
X.25 user group identifier (USRGRPID)	426
X.25 reverse charging (RVSCRG)	426
User facilities (USRFCL)	427
Recovery limits (CMNRCYLMT)	427
Message queue (MSGQ)	427
Authority (AUT)	428
Examples	428
Error messages	429

**Create Ctl Desc (BSC) (CRTCTLBSC) 431**

Parameters	431
Controller description (CTLD)	432

Online at IPL (ONLINE)	432
Connection type (CNN)	432
Switched network backup (SNBU)	432
Attached nonswitched line (LINE)	433
Switched line list (SWTLINLST)	433
Application type (APPTYPE)	433
Initial connection (INLCNN)	434
Connection number (C>NNNBR)	434
Local identifier (LCLID)	434
Remote identifiers (RMTID)	435
RJE host type (RJEHOST)	435
RJE host signon/logon (RJELOGON)	436
Text 'description' (TEXT)	436
Attached devices (DEV)	436
Predial delay (PREDIALDLY)	436
Redial delay (REDIALDLY)	437
Dial retry (DIALRTY)	437
Recovery limits (CMNRCYLMT)	437
Authority (AUT)	438
Examples	438
Error messages	439

**Create Ctl Desc (Finance) (CRTCTLFNC) . . . . . 441**

Parameters	441
Controller description (CTLD)	443
Controller type (TYPE)	443
Controller model (MODEL)	444
Link type (LINKTYPE)	444
Online at IPL (ONLINE)	444
Switched connection (SWITCHED)	445
Short hold mode (SHM)	445
Switched network backup (SNBU)	445
Attached nonswitched line (LINE)	446
Switched line list (SWTLINLST)	446
Maximum frame size (MAXFRAME)	446
Exchange identifier (EXCHID)	447
Initial connection (INLCNN)	447
Connection number (C>NNNBR)	448
Answer number (ANSNBR)	448
SHM disconnect limit (SHMDSCLMT)	448
SHM disconnect timer (SHMDSCTMR)	449
Station address (STNADR)	449
LAN remote adapter address (ADPTADR)	449
X.25 network level (NETLVL)	450
X.25 link level protocol (LINKPCL)	450
X.25 logical channel ID (LGLCHLID)	450
X.25 connection password (CNNPWD)	451
Text 'description' (TEXT)	451
Attached devices (DEV)	451
Character code (CODE)	452
SSCP identifier (SSCPID)	452
Predial delay (PREDIALDLY)	452
Redial delay (REDIALDLY)	452
Dial retry (DIALRTY)	453
Switched disconnect (SWTDSC)	453
SDLC poll priority (POLLPTY)	453
SDLC poll limit (POLLMT)	454
SDLC out limit (OUTLMT)	454
SDLC connect poll retry (CNNPOLLRTY)	454
SDLC NDM poll timer (NDMPOLLTMR)	455



LAN DSAP (DSAP)	455
LAN SSAP (SSAP)	455
LAN frame retry (LANFRMRTY)	456
LAN connection retry (LANCNNRTY)	456
LAN response timer (LANRSPTMR)	456
LAN connection timer (LANCNTMR)	457
LAN acknowledgement timer (LANACKTMR)	457
LAN inactivity timer (LANINACTMR)	457
LAN acknowledgement frequency (LANACKFRQ)	458
LAN max outstanding frames (LANMAXOUT)	458
LAN access priority (LANACCPY)	458
LAN window step (LANWDWSTP)	459
X.25 switched line selection (SWTLINSLCT)	459
X.25 default packet size (DFTPKTSIZE)	459
X.25 default window size (DFTWDWSIZE)	460
X.25 user group identifier (USRGRPID)	461
X.25 reverse charging (RVSCRG)	461
X.25 frame retry (X25FRMRTY)	461
X.25 connection retry (X25CNNRTY)	462
X.25 response timer (X25RSPTMR)	462
X.25 connection timer (X25CNTMR)	462
X.25 delayed connection timer (X25DLYTMR)	463
X.25 acknowledgement timer (X25ACKTMR)	463
X.25 inactivity timer (X25INACTMR)	463
User facilities (USRFCL)	463
Recovery limits (CMNRCYLMT)	464
Authority (AUT)	464
Examples	465
Error messages	465

**Create Ctl Desc (SNA Host)  
(CRTCTLHOST) . . . . . 467**

Parameters	467
Controller description (CTLD)	470
Link type (LINKTYPE)	470
Online at IPL (ONLINE)	470
Switched connection (SWITCHED)	471
Short hold mode (SHM)	471
Switched network backup (SNBU)	471
APPN-capable (APPN)	472
Attached nonswitched line (LINE)	472
Switched line list (SWTLINLST)	472
Maximum frame size (MAXFRAME)	472
Remote network identifier (RMTNETID)	473
Remote control point (RMTCPNAME)	473
Adjacent link station (ADJLNKSTN)	474
SSCP identifier (SSCPID)	474
Local exchange identifier (LCLEXCHID)	474
Initial connection (INLCNN)	475
Dial initiation (DIALINIT)	475
Connection number (CNNNBR)	476
Answer number (ANSNBR)	476
Outgoing connection list (CNNLSTOUT)	476
Connection list entry (CNNLSTOUTE)	477
Station address (STNADR)	477
LAN remote adapter address (ADPTADR)	477
X.25 network level (NETLVL)	477
X.25 link level protocol (LINKPCL)	478
X.25 logical channel ID (LGLCHLID)	478
X.25 connection password (CNNPWD)	478
APPN CP session support (CPSSN)	479

Remote APPN node type (NODETYPE)	479
Branch extender role (BEXROLE)	480
APPN/HPR capable (HPR)	480
HPR path switching (HPRPTHSWT)	480
APPN transmission group number (TMSGRPNBR)	481
APPN minimum switched status (MINSWTSTS)	481
Autocreate device (AUTOCRTDEV)	481
Autodelete device (AUTODLTDEV)	482
User-defined 1 (USRDFN)	482
User-defined 2 (USRDFN)	483
User-defined 3 (USRDFN)	483
Recontact on vary off (RECONTACT)	483
Text 'description' (TEXT)	484
Primary DLUS name (PRIDLUS)	484
Backup DLUS name (BKUDLUS)	485
Dependent PU name (DEPPUNAME)	485
30-2550 (seconds) (ACTTMR)	486
Dsc/reconnect timer (T309) (RECNNTMR)	486
Attached devices (DEV)	487
Character code (CODE)	487
IDLC window size (IDLCWDWSIZ)	487
IDLC frame retry (IDLCFRMRTY)	488
IDLC response timer (IDLCRSPTMR)	488
IDLC connect retry (IDLCCNNRTY)	488
Predial delay (PREDIALDLY)	489
Redial delay (REDIALDLY)	489
Dial retry (DIALRTY)	489
Switched disconnect (SWTDSC)	489
Disconnect timer (DSCTMR)	490
LAN DSAP (DSAP)	490
LAN SSAP (SSAP)	491
LAN frame retry (LANFRMRTY)	491
LAN connection retry (LANCNNRTY)	491
LAN response timer (LANRSPTMR)	492
LAN connection timer (LANCNTMR)	492
LAN acknowledgement timer (LANACKTMR)	492
LAN inactivity timer (LANINACTMR)	493
LAN acknowledgement frequency (LANACKFRQ)	493
LAN max outstanding frames (LANMAXOUT)	493
LAN access priority (LANACCPY)	494
LAN window step (LANWDWSTP)	494
X.25 switched line selection (SWTLINSLCT)	494
X.25 default packet size (DFTPKTSIZE)	495
X.25 default window size (DFTWDWSIZE)	495
X.25 user group identifier (USRGRPID)	496
X.25 reverse charging (RVSCRG)	496
X.25 frame retry (X25FRMRTY)	497
X.25 response timer (X25RSPTMR)	497
X.25 acknowledgement timer (X25ACKTMR)	497
X.25 inactivity timer (X25INACTMR)	498
User facilities (USRFCL)	498
Recovery limits (CMNRCYLMT)	498
Message queue (MSGQ)	499
Authority (AUT)	499
Examples	500
Error messages	500

**Create Ctl Desc (Local WS)  
(CRTCTLLWS) . . . . . 501**

Parameters	501
Controller description (CTLD)	502

Controller type (TYPE) . . . . .	502
Controller model (MODEL). . . . .	504
Resource name (RSRCNAME). . . . .	504
Online at IPL (ONLINE). . . . .	504
Initialization source file (INZFILE) . . . . .	504
Initialization source member (INZMBR) . . . . .	505
Initialization program (INZPGM). . . . .	505
Text 'description' (TEXT) . . . . .	506
Attached devices (DEV) . . . . .	506
Device wait timer (DEVWAITTMR) . . . . .	507
Auto-configuration controller (AUTOCFG) . . . . .	508
Authority (AUT) . . . . .	508
Message queue (MSGQ). . . . .	508
Examples. . . . .	509
Error messages . . . . .	509

### Create Ctl Desc (Network)

<b>(CRTCTLNET) . . . . .</b>	<b>511</b>
Parameters . . . . .	511
Controller description (CTLD). . . . .	511
Online at IPL (ONLINE). . . . .	511
Attached line (LINE) . . . . .	512
Connection response timer (CNNRSPTMR) . . . . .	512
Text 'description' (TEXT) . . . . .	512
Attached devices (DEV) . . . . .	512
Authority (AUT) . . . . .	512
Examples. . . . .	513
Error messages . . . . .	513

### Create Ctl Desc (Retail) (CRTCLRTL) 515

Parameters . . . . .	515
Controller description (CTLD). . . . .	517
Controller type (TYPE) . . . . .	517
Controller model (MODEL). . . . .	517
Link type (LINKTYPE) . . . . .	517
Online at IPL (ONLINE). . . . .	518
Switched connection (SWITCHED) . . . . .	518
Switched network backup (SNBU) . . . . .	519
Attached nonswitched line (LINE) . . . . .	519
Switched line list (SWTLINLST) . . . . .	519
Maximum frame size (MAXFRAME) . . . . .	519
Exchange identifier (EXCHID). . . . .	520
Initial connection (INLCNN) . . . . .	520
Connection number (CNNNBR) . . . . .	521
Answer number (ANSNBR) . . . . .	521
Station address (STNADR) . . . . .	521
LAN remote adapter address (ADPTADR). . . . .	521
LAN DSAP (DSAP) . . . . .	522
LAN SSAP (SSAP). . . . .	522
X.25 network level (NETLVL) . . . . .	522
X.25 logical channel ID (LGLCHLID) . . . . .	523
X.25 connection password (CNNPWD) . . . . .	523
Text 'description' (TEXT) . . . . .	524
Attached devices (DEV) . . . . .	524
Character code (CODE) . . . . .	524
SSCP identifier (SSCPID) . . . . .	524
Predial delay (PREDIALDLY) . . . . .	525
Redial delay (REDIALDLY). . . . .	525
Dial retry (DIALRTY). . . . .	525
Switched disconnect (SWTDSC) . . . . .	525

SDLC poll priority (POLLPTY) . . . . .	526
SDLC poll limit (POLLMT) . . . . .	526
SDLC out limit (OUTLMT). . . . .	526
SDLC connect poll retry (CNNPOLLRTY) . . . . .	527
SDLC NDM poll timer (NDMPOLLTMR) . . . . .	527
LAN frame retry (LANFRMRTY) . . . . .	527
LAN connection retry (LANCNNRTY) . . . . .	528
LAN response timer (LANRSPTMR). . . . .	528
LAN connection timer (LANCNTMR) . . . . .	528
LAN acknowledgement timer (LANACKTMR) . . . . .	529
LAN inactivity timer (LANINACTMR) . . . . .	529
LAN acknowledgement frequency (LANACKFRQ) . . . . .	529
LAN max outstanding frames (LANMAXOUT) . . . . .	530
LAN access priority (LANACPTY). . . . .	530
LAN window step (LANWDWSTP) . . . . .	530
X.25 switched line selection (SWTLINSLCT) . . . . .	531
X.25 default packet size (DFTPKTSIZE). . . . .	531
X.25 default window size (DFTWDWSIZE) . . . . .	532
X.25 user group identifier (USRGRPID). . . . .	532
X.25 reverse charging (RVSCRG) . . . . .	533
X.25 frame retry (X25FRMRTY) . . . . .	533
X.25 connection retry (X25CNNRTY) . . . . .	533
X.25 response timer (X25RSPTMR) . . . . .	534
X.25 connection timer (X25CNTMR) . . . . .	534
X.25 delayed connection timer (X25DLYTMR) . . . . .	534
User facilities (USRFCL). . . . .	535
Recovery limits (CMNRCYLMT) . . . . .	535
Authority (AUT) . . . . .	535
Examples. . . . .	536
Error messages . . . . .	536

### Create Ctl Desc (Remote WS)

<b>(CRTCLRWS) . . . . .</b>	<b>539</b>
Parameters . . . . .	539
Controller description (CTLD). . . . .	541
Controller type (TYPE) . . . . .	541
Controller model (MODEL). . . . .	542
Link type (LINKTYPE) . . . . .	543
Online at IPL (ONLINE). . . . .	543
Switched connection (SWITCHED) . . . . .	543
Short hold mode (SHM) . . . . .	544
Switched network backup (SNBU) . . . . .	544
Attached nonswitched line (LINE) . . . . .	544
Switched line list (SWTLINLST) . . . . .	545
Maximum frame size (MAXFRAME) . . . . .	545
Remote location (RMTLOCNAME) . . . . .	545
Local location (LCLLOCNAME) . . . . .	545
Remote network identifier (RMTNETID) . . . . .	546
Exchange identifier (EXCHID). . . . .	546
Initial connection (INLCNN) . . . . .	546
Dial initiation (DIALINIT) . . . . .	547
Connection number (CNNNBR) . . . . .	547
Answer number (ANSNBR) . . . . .	547
Outgoing connection list (CNNLSTOUT) . . . . .	548
Connection list entry (CNNLSTOUTE) . . . . .	548
SHM disconnect limit (SHMDSCLMT) . . . . .	548
SHM disconnect timer (SHMDSCTMR). . . . .	549
Station address (STNADR) . . . . .	549
LAN remote adapter address (ADPTADR). . . . .	549
X.25 network level (NETLVL) . . . . .	550
X.25 link level protocol (LINKPCL) . . . . .	550

X.25 logical channel ID (LGLCHLID)	550
X.25 connection password (CNNPWD)	551
Autocreate device (AUTOCRTDEV)	551
Switched disconnect (SWTDSC)	551
Text 'description' (TEXT)	552
Attached devices (DEV)	552
Attached devices (DEV)	552
Character code (CODE)	552
Device wait timer (DEVWAITTMR)	553
SSCP identifier (SSCPID)	553
IDLC window size (IDLCWDWSIZ)	553
IDLC frame retry (IDLCFRMRTY)	554
IDLC response timer (IDLCRSPTMR)	554
IDLC connect retry (IDLCCNNRTY)	554
Predial delay (PREDIALDLY)	555
Redial delay (REDIALDLY)	555
Dial retry (DIALRTY)	555
SDLC poll priority (POLLPTY)	555
SDLC poll limit (POLLMT)	556
SDLC out limit (OUTLMT)	556
SDLC connect poll retry (CNNPOLLRTY)	556
SDLC NDM poll timer (NDMPOLLTMR)	557
LAN DSAP (DSAP)	557
LAN SSAP (SSAP)	557
LAN frame retry (LANFRMRTY)	558
LAN connection retry (LANCNNRTY)	558
LAN response timer (LANRSPTMR)	559
LAN connection timer (LANCNTMR)	559
LAN acknowledgement timer (LANACKTMR)	559
LAN inactivity timer (LANINACTMR)	560
LAN acknowledgement frequency (LANACKFRQ)	560
LAN max outstanding frames (LANMAXOUT)	560
LAN access priority (LANACCPTY)	561
LAN window step (LANWDWSTP)	561
X.25 switched line selection (SWTLNSLCT)	561
X.25 default packet size (DFTPKTSIZE)	562
X.25 default window size (DFTWDWSIZE)	562
X.25 user group identifier (USRGRPID)	563
X.25 reverse charging (RVSCRG)	563
X.25 frame retry (X25FRMRTY)	564
X.25 connection retry (X25CNNRTY)	564
X.25 response timer (X25RSPTMR)	564
X.25 connection timer (X25CNTMR)	565
X.25 delayed connection timer (X25DLYTMR)	565
X.25 acknowledgement timer (X25ACKTMR)	565
X.25 inactivity timer (X25INACTMR)	566
User facilities (USRFCL)	566
Allocation retry timer (ALCRTYTMR)	566
Recovery limits (CMNRCYLMT)	566
Message queue (MSGQ)	567
Authority (AUT)	567
Examples	568
Error messages	568

### **Create Ctl Desc (Tape) (CRTCTLTAP) 571**

Parameters	571
Controller description (CTLD)	571
Controller type (TYPE)	571
Controller model (MODEL)	572
Resource name (RSRCNAME)	572
Online at IPL (ONLINE)	572

Text 'description' (TEXT)	573
Attached devices (DEV)	573
Auto-configuration controller (AUTOCFG)	573
Authority (AUT)	573
Examples	574
Error messages	574

### **Create Ctl Desc (Virtual WS)**

#### **(CRTCTLVWS) 577**

Parameters	577
Controller description (CTLD)	577
Online at IPL (ONLINE)	577
Text 'description' (TEXT)	578
Attached devices (DEV)	578
Device wait timer (DEVWAITTMR)	578
Message queue (MSGQ)	579
Authority (AUT)	579
Examples	580
Error messages	580

#### **Create DDM File (CRTDDMF) 581**

Parameters	581
DDM file (FILE)	582
Remote file (RMTFILE)	582
Remote location (RMTLOCNAME)	583
Relational database (RDB)	584
Text 'description' (TEXT)	584
Device (DEV)	585
Local location (LCLLOCNAME)	585
Mode (MODE)	585
Remote network identifier (RMTNETID)	586
Port number (PORT)	586
Access method (ACCMTH)	586
Share open data path (SHARE)	588
Protected conversation (PTCCNV)	588
Record format level check (LVLCHK)	588
Authority (AUT)	589
Replace file (REPLACE)	589
Examples	590
Error messages	591

### **Create Device Desc (APPC)**

#### **(CRTDEVAPPC) 593**

Parameters	593
Device description (DEVD)	594
Remote location (RMTLOCNAME)	594
Online at IPL (ONLINE)	594
Local location (LCLLOCNAME)	594
Remote network identifier (RMTNETID)	594
Attached controller (CTL)	595
Mode (MODE)	595
Message queue (MSGQ)	595
APPN-capable (APPN)	596
Single session (SNGSSN)	596
Locally controlled session (LCLCTLSSN)	597
Pre-established session (PREESTSSN)	597
Location password (LOCPWD)	597
Secure location (SECURELOC)	598
Text 'description' (TEXT)	598
Local location address (LOCADR)	598

Authority (AUT) . . . . .	599
Examples . . . . .	599
Error messages . . . . .	599

<b>Create Device Desc (Async)</b>	
<b>(CRTDEVASC) . . . . .</b>	<b>601</b>
Parameters . . . . .	601
Device description (DEV D) . . . . .	601
Remote location (RMTLOCNAME) . . . . .	601
Online at IPL (ONLINE) . . . . .	602
Attached controller (CTL) . . . . .	602
Text 'description' (TEXT) . . . . .	602
Authority (AUT) . . . . .	602
Examples . . . . .	603
Error messages . . . . .	603

<b>Create Device Desc (ASP)</b>	
<b>(CRTDEVASP) . . . . .</b>	<b>605</b>
Parameters . . . . .	605
Device description (DEV D) . . . . .	605
Resource name (R SRCNAME) . . . . .	605
Relational database (RDB) . . . . .	606
Message queue (MSGQ) . . . . .	606
Text 'description' (TEXT) . . . . .	606
Authority (AUT) . . . . .	606
Examples . . . . .	607
Error messages . . . . .	608

<b>Create Device Desc (BSC)</b>	
<b>(CRTDEVBSC) . . . . .</b>	<b>609</b>
Parameters . . . . .	609
Device description (DEV D) . . . . .	610
Local location address (LOCADR) . . . . .	610
Remote location (RMTLOCNAME) . . . . .	610
Online at IPL (ONLINE) . . . . .	610
Attached controller (CTL) . . . . .	611
Connection type (CNN) . . . . .	611
Application type (APPTYPE) . . . . .	611
Contention resolution winner (CTNWIN) . . . . .	612
Blocking type (BLOCK) . . . . .	612
Separator character (SEPCHAR) . . . . .	613
Remote BSC EL (RMTBSC EL) . . . . .	613
Record length (RCDLEN) . . . . .	613
Block length (BLKLEN) . . . . .	613
Transmit in transparent mode (TRNSPY) . . . . .	614
Compress and decompress data (DTACPR) . . . . .	614
Truncate trailing blanks (TRUNC) . . . . .	615
Group separator type (GRPSEP) . . . . .	615
Emulated device (EMLDEV) . . . . .	615
Emulated keyboard (EMLKBD) . . . . .	616
Emulated numeric lock (EMLNUMLCK) . . . . .	616
Emulation work station (EMLWRKSTN) . . . . .	617
Text 'description' (TEXT) . . . . .	617
Authority (AUT) . . . . .	617
Examples . . . . .	618
Error messages . . . . .	618

<b>Create Device Desc (Crypto)</b>	
<b>(CRTDEVCRP) . . . . .</b>	<b>619</b>

Parameters . . . . .	619
Device description (DEV D) . . . . .	619
Resource name (R SRCNAME) . . . . .	620
Application type (APPTYPE) . . . . .	620
Online at IPL (ONLINE) . . . . .	620
Message queue (MSGQ) . . . . .	621
PKA key store file (PKAKEYFILE) . . . . .	621
DES key store file (DESKEYFILE) . . . . .	622
Text 'description' (TEXT) . . . . .	622
Authority (AUT) . . . . .	623
Examples . . . . .	623
Error messages . . . . .	623

<b>Create Device Desc (Display)</b>	
<b>(CRTDEV DSP) . . . . .</b>	<b>625</b>
Parameters . . . . .	625
Device description (DEV D) . . . . .	627
Device class (DEVCLS) . . . . .	627
Device type (TYPE) . . . . .	628
Device model (MODEL) . . . . .	629
Emulated device (EMLDEV) . . . . .	630
Port number (PORT) . . . . .	631
Switch setting (SWTSET) . . . . .	631
Shared session number (SHRSSNNBR) . . . . .	631
Local location address (LOCADR) . . . . .	632
Emulating ASCII device (EMLASCII) . . . . .	632
Physical attachment (ATTACH) . . . . .	633
Online at IPL (ONLINE) . . . . .	633
Attached controller (CTL) . . . . .	634
Keyboard language type (KBDTYPE) . . . . .	634
Drop line at signoff (DROP) . . . . .	639
Allow blinking cursor (ALWBLN) . . . . .	639
Auxiliary device (AUXDEV) . . . . .	640
Printer (PRINTER) . . . . .	640
Maximum length of request unit (MAXLENRU) . . . . .	640
Application type (APPTYPE) . . . . .	641
Activation timer (ACTTMR) . . . . .	641
Inactivity timer (INACTTMR) . . . . .	641
SNA pass-through device desc (SNPTDEV) . . . . .	643
SNA pass-through group name (SNPTGRP) . . . . .	643
Host signon/logon command (LOGON) . . . . .	643
Line speed (LINESPEED) . . . . .	644
Word length (WORDLEN) . . . . .	644
Type of parity (PARITY) . . . . .	645
Stop bits (STOPBITS) . . . . .	646
Maximum outstanding frames (MAXOUT) . . . . .	646
Idle timer (IDLTMR) . . . . .	647
NRM poll timer (NRMPOLLTMR) . . . . .	647
Frame retry (FRAMERTY) . . . . .	647
Remote location (RMTLOCNAME) . . . . .	648
Local location (LCLLOCNAME) . . . . .	648
Remote network identifier (RMTNETID) . . . . .	648
DBCS feature (IGCFEAT) . . . . .	649
Text 'description' (TEXT) . . . . .	649
Dependent location name (DEPLOCNAME) . . . . .	649
Character identifier (CHRID) . . . . .	650
Print device (PRTDEV) . . . . .	650
Output queue (OUTQ) . . . . .	651
Printer file (PRTFILE) . . . . .	651
Workstation customizing object (WSCST) . . . . .	652
Authority (AUT) . . . . .	652



Examples . . . . .	653
Error messages . . . . .	653

**Create Device Desc (Finance)  
(CRTDEVFNC) . . . . . 655**

Parameters . . . . .	655
Device description (DEVD) . . . . .	655
Device type (TYPE) . . . . .	656
Local location address (LOCADR) . . . . .	656
Remote location (RMTLOCNAME) . . . . .	656
Online at IPL (ONLINE) . . . . .	656
Attached controller (CTL) . . . . .	657
Maximum length of request unit (MAXLENRU) . . . . .	657
Device class (DEVCLS) . . . . .	657
Activation timer (ACTTMR) . . . . .	658
Inactivity timer (INACTTMR) . . . . .	658
SNA pass-through device desc (SNPTDEV) . . . . .	659
SNA pass-through group name (SNPTGRP) . . . . .	659
Text 'description' (TEXT) . . . . .	659
Authority (AUT) . . . . .	659
Examples . . . . .	660
Error messages . . . . .	660

**Create Device Desc (SNA Host)  
(CRTDEVHOST) . . . . . 663**

Parameters . . . . .	663
Device description (DEVD) . . . . .	663
Local location address (LOCADR) . . . . .	664
Remote location (RMTLOCNAME) . . . . .	664
Online at IPL (ONLINE) . . . . .	664
Attached controller (CTL) . . . . .	664
Application type (APPTYPE) . . . . .	664
Maximum length of request unit (MAXLENRU) . . . . .	665
Emulated device (EMLDEV) . . . . .	665
Emulated keyboard (EMLKBD) . . . . .	666
Emulated numeric lock (EMLNUMLCK) . . . . .	666
Emulation work station (EMLWRKSTN) . . . . .	666
End session with host (ENDSSNHOST) . . . . .	667
Text 'description' (TEXT) . . . . .	667
Dependent location name (DEPLOCNAME) . . . . .	667
Authority (AUT) . . . . .	668
Examples . . . . .	668
Error messages . . . . .	668

**Create Device Desc (Intra)  
(CRTDEVINTR) . . . . . 669**

Parameters . . . . .	669
Device description (DEVD) . . . . .	669
Remote location (RMTLOCNAME) . . . . .	669
Online at IPL (ONLINE) . . . . .	669
Text 'description' (TEXT) . . . . .	670
Authority (AUT) . . . . .	670
Examples . . . . .	671
Error messages . . . . .	671

**Create Device Desc (Media Lib)  
(CRTDEVMLB) . . . . . 673**

Parameters . . . . .	673
Device description (DEVD) . . . . .	674

Device class (DEVCLS) . . . . .	674
Resource name (RSRCNAME) . . . . .	674
Device type (TYPE) . . . . .	674
Online at IPL (ONLINE) . . . . .	675
Unload wait time (UNLOADWAIT) . . . . .	675
Maximum device wait time (MAXDEVTIME) . . . . .	676
Resource allocation priority (RSCALCPTY) . . . . .	676
Initial mount wait time (INLMNTWAIT) . . . . .	677
End of volume mount wait time (EOVMNTWAIT) . . . . .	677
Generate cartridge ids (GENCTGID) . . . . .	678
Robot device descriptions (ROBOTDEV) . . . . .	678
Robot host (ROBOTHOST) . . . . .	678
Local internet address (LCLINTNETA) . . . . .	678
Message queue (MSGQ) . . . . .	679
Text 'description' (TEXT) . . . . .	679
Authority (AUT) . . . . .	679
Examples . . . . .	680
Error messages . . . . .	680

**Create Device Desc (Network)  
(CRTDEVNET) . . . . . 681**

Parameters . . . . .	681
Device description (DEVD) . . . . .	681
Device type (TYPE) . . . . .	681
Online at IPL (ONLINE) . . . . .	682
Attached controller (CTL) . . . . .	682
Text 'description' (TEXT) . . . . .	682
Authority (AUT) . . . . .	682
Examples . . . . .	683
Error messages . . . . .	683

**Create Device Desc (NWSH)  
(CRTDEVNWSH) . . . . . 685**

Parameters . . . . .	685
Device description (DEVD) . . . . .	686
Resource name (RSRCNAME) . . . . .	686
Local (target) interface (LCLIFC) . . . . .	686
Online at IPL (ONLINE) . . . . .	689
Message queue (MSGQ) . . . . .	689
Recovery limits (CMNRCYLMT) . . . . .	690
Text 'description' (TEXT) . . . . .	690
Authority (AUT) . . . . .	691
Examples . . . . .	691
Error messages . . . . .	692

**Create Device Desc (Optical)  
(CRTDEVOPT) . . . . . 693**

Parameters . . . . .	693
Device description (DEVD) . . . . .	693
Resource name (RSRCNAME) . . . . .	694
Device type (TYPE) . . . . .	694
Local internet address (LCLINTNETA) . . . . .	694
Remote internet address (RMTINTNETA) . . . . .	695
Network image directory (NETIMGDIR) . . . . .	695
User ID number (UID) . . . . .	695
Group ID number (GID) . . . . .	696
Online at IPL (ONLINE) . . . . .	696
Message queue (MSGQ) . . . . .	696
Text 'description' (TEXT) . . . . .	697
Authority (AUT) . . . . .	697

Examples . . . . .	698
Error messages . . . . .	698

## **Create Device Desc (Printer)**

### **(CRTDEVPRT) . . . . . 699**

Parameters . . . . .	699
Device description (DEVD) . . . . .	702
Device class (DEVCLS) . . . . .	702
Device type (TYPE) . . . . .	703
Device model (MODEL) . . . . .	704
LAN attachment (LANATTACH) . . . . .	705
LAN remote adapter address (ADPTADR) . . . . .	705
Adapter type (ADPTTYPE) . . . . .	706
Adapter connection type (ADPTCNNTYP) . . . . .	706
Emulated twinaxial device (EMLDEV) . . . . .	706
Advanced function printing (AFP) . . . . .	707
AFP attachment (AFPATTACH) . . . . .	707
Port number (PORT) . . . . .	707
Switch setting (SWTSET) . . . . .	708
Local location address (LOCADR) . . . . .	708
Auxiliary printer (AUXPRT) . . . . .	709
Emulating ASCII device (EMLASCII) . . . . .	709
Physical attachment (ATTACH) . . . . .	710
Online at IPL (ONLINE) . . . . .	710
Attached controller (CTL) . . . . .	711
Language type (LNGTYPE) . . . . .	711
Print quality (PRTQLTY) . . . . .	713
Font identifier (FONT) . . . . .	713
Form feed (FORMFEED) . . . . .	714
Separator drawer (SEPDRAWER) . . . . .	715
Separator program (SEPPGM) . . . . .	715
Number of drawers (NBRDRAWER) . . . . .	716
Printer error message (PRTERRMSG) . . . . .	716
Message queue (MSGQ) . . . . .	716
Maximum length of request unit (MAXLENRU) . . . . .	717
Application type (APPTYPE) . . . . .	718
Activation timer (ACTTMR) . . . . .	718
Inactivity timer (INACTTMR) . . . . .	719
SNA pass-through device desc (SNPTDEV) . . . . .	719
SNA pass-through group name (SNPTGRP) . . . . .	720
Host signon/logon command (LOGON) . . . . .	720
Pacing value (PACING) . . . . .	721
Line speed (LINESPEED) . . . . .	721
Word length (WORDLEN) . . . . .	721
Type of parity (PARITY) . . . . .	722
Stop bits (STOPBITS) . . . . .	722
Host print transform (TRANSFORM) . . . . .	723
Manufacturer type and model (MFRTYPMDL) . . . . .	723
Paper source 1 (PPSRC1) . . . . .	730
Paper source 2 (PPSRC2) . . . . .	731
Envelope source (ENVELOPE) . . . . .	732
ASCII code page 899 support (ASCII899) . . . . .	733
Image configuration (IMGCFG) . . . . .	733
Maximum pending requests (MAXPNDRQS) . . . . .	736
Print while converting (PRTCVT) . . . . .	736
Print request timer (PRTRQSTMR) . . . . .	736
Form definition (FORMDF) . . . . .	737
Character identifier (CHRID) . . . . .	737
Remote location (RMTLOCNAME) . . . . .	738
Local location (LCLLOCNAME) . . . . .	738
Mode (MODE) . . . . .	738

DBCS feature (IGCFEAT) . . . . .	739
User-defined options (USRDFNOPT) . . . . .	739
User-defined object (USRDFNOBJ) . . . . .	740
Data transform program (USRDTATFM) . . . . .	741
User-defined driver program (USRDRVPGM) . . . . .	741
System driver program (SYSDRVPGM) . . . . .	742
Secure connection (SECURECNN) . . . . .	742
Validation list (VLDL) . . . . .	743
Text 'description' (TEXT) . . . . .	744
Dependent location name (DEPLOCNAME) . . . . .	745
Remote network identifier (RMTNETID) . . . . .	745
Workstation customizing object (WSCST) . . . . .	745
Authority (AUT) . . . . .	746
Examples . . . . .	746
Error messages . . . . .	747

## **Create Device Desc (Retail)**

### **(CRTDEVRTL) . . . . . 749**

Parameters . . . . .	749
Device description (DEVD) . . . . .	749
Local location address (LOCADR) . . . . .	750
Remote location (RMTLOCNAME) . . . . .	750
Online at IPL (ONLINE) . . . . .	750
Attached controller (CTL) . . . . .	750
Pacing value (PACING) . . . . .	750
Maximum length of request unit (MAXLENRU) . . . . .	751
Application type (APPTYPE) . . . . .	751
Device class (DEVCLS) . . . . .	751
Activation timer (ACTTMR) . . . . .	752
Inactivity timer (INACTTMR) . . . . .	752
SNA pass-through device desc (SNPTDEV) . . . . .	753
SNA pass-through group name (SNPTGRP) . . . . .	753
Text 'description' (TEXT) . . . . .	753
Authority (AUT) . . . . .	753
Examples . . . . .	754
Error messages . . . . .	754

## **Create Device Desc (SNPT)**

### **(CRTDEVSNPT) . . . . . 755**

Parameters . . . . .	755
Device description (DEVD) . . . . .	755
Local location address (LOCADR) . . . . .	755
SNA pass-through class (SNPTCLS) . . . . .	756
Online at IPL (ONLINE) . . . . .	756
Attached controller (CTL) . . . . .	756
Activation timer (ACTTMR) . . . . .	756
SNA pass-through device desc (SNPTDEV) . . . . .	757
SNA pass-through group name (SNPTGRP) . . . . .	757
Text 'description' (TEXT) . . . . .	757
Dependent location name (DEPLOCNAME) . . . . .	758
Authority (AUT) . . . . .	758
Examples . . . . .	759
Error messages . . . . .	759

## **Create Device Desc (SNUF)**

### **(CRTDEVSNUF) . . . . . 761**

Parameters . . . . .	761
Device description (DEVD) . . . . .	761
Local location address (LOCADR) . . . . .	762
Remote location (RMTLOCNAME) . . . . .	762

Online at IPL (ONLINE)	762
Attached controller (CTL)	762
Program start request capable (PGMSTRRQS)	762
Special host application (SPCHOSTAPP)	763
Application identifier (APPID)	763
Host type (HOST)	763
Record length (RCDLEN)	763
Block length (BLKLEN)	763
Default program (DFTPGM)	764
HCP emulation (HCPPEML)	764
Text 'description' (TEXT)	764
Dependent location name (DEPLOCNAME)	765
Authority (AUT)	765
Examples	766
Error messages	766

### Create Device Desc (Tape)

<b>(CRTDEVTAP)</b>	<b>767</b>
Parameters	767
Device description (DEVD)	767
Device type (TYPE)	768
Device model (MODEL)	768
Resource name (RSRCNAME)	768
Switch setting (SWTSET)	769
Online at IPL (ONLINE)	769
Attached controller (CTL)	769
Assign device at vary on (ASSIGN)	769
Unload device at vary off (UNLOAD)	770
Message queue (MSGQ)	770
Text 'description' (TEXT)	770
Authority (AUT)	771
Examples	771
Error messages	772

### Create Directory (CRTDIR)

<b>(CRTDIR)</b>	<b>773</b>
Parameters	773
Directory (DIR)	774
Public authority for data (DTAAUT)	774
Public authority for object (OBJAUT)	775
Auditing value for objects (CRTOBJAUD)	776
Scanning option for objects (CRTOBJSCAN)	776
Restricted rename and unlink (RSTDRNMUNL)	777
Examples	777
Error messages	778

### Create Document (CRTDOC)

<b>(CRTDOC)</b>	<b>779</b>
Parameters	779
Document (DOC)	779
Folder (FLR)	779
Text profile (TXTPRF)	780
Document description (TEXT)	780
Document details (DETAILS)	780
Edit document (EDIT)	780
Display exit panel (EXITPNL)	780
Examples	781
Error messages	781

### Create Display File (CRTDSPF)

<b>(CRTDSPF)</b>	<b>783</b>
Parameters	783
File (FILE)	784

Source file (SRCFILE)	785
Source member (SRCMBR)	785
Generation severity level (GENLVL)	785
Flagging severity level (FLAG)	785
Display device (DEV)	786
User specified DBCS data (IGCDTA)	786
DBCS extension characters (IGCEXNCHR)	787
Text 'description' (TEXT)	787
Source listing options (OPTION)	787
Maximum devices (MAXDEV)	788
Enhanced display (ENHDSP)	788
Restore display (RSTDSP)	788
Defer write (DFRWRT)	789
Character identifier (CHRID)	789
Decimal format (DECfmt)	790
SFLEND text (SFLENDTXT)	790
Maximum file wait time (WAITFILE)	790
Maximum record wait time (WAITRCD)	791
Data queue (DTAQ)	791
Share open data path (SHARE)	791
Sort sequence (SRTSEQ)	792
Language ID (LANGID)	792
Record format level check (LVLCHK)	793
Authority (AUT)	793
Replace file (REPLACE)	793
Examples	794
Error messages	794

### Create Distribution List (CRTDSTL)

<b>(CRTDSTL)</b>	<b>795</b>
Parameters	795
List identifier (LSTID)	795
List description (LSTD)	796
Command character identifier (CMDCHRID)	796
Examples	796
Error messages	797

### Create Data Area (CRTDTAARA)

<b>(CRTDTAARA)</b>	<b>799</b>
Parameters	800
Data area (DTAARA)	800
Type (TYPE)	801
Length (LEN)	801
Initial value (VALUE)	802
Remote data area (RMTDTAARA)	802
Remote location (RMTLOCNAME)	802
Relational database (RDB)	802
APPC device description (DEV)	803
Local location (LCLLOCNAME)	803
Mode (MODE)	803
Remote network identifier (RMTNETID)	804
Text 'description' (TEXT)	804
Authority (AUT)	804
Examples	805
Error messages	805

### Create Data Dictionary (CRTDTADCT)

<b>(CRTDTADCT)</b>	<b>807</b>
Parameters	807
Data dictionary (DTADCT)	807
Text 'description' (TEXT)	807
Authority (AUT)	808
Examples	808

Error messages . . . . . 809

**Create Data Queue (CRTDTAQ). . . . . 811**

Parameters . . . . . 811  
Data queue (DTAQ) . . . . . 812  
Type (TYPE). . . . . 812  
Maximum entry length (MAXLEN) . . . . . 813  
Force to auxiliary storage (FORCE) . . . . . 813  
Sequence (SEQ). . . . . 813  
Key length (KEYLEN) . . . . . 813  
Include sender ID (SENDERID) . . . . . 814  
Queue size (SIZE) . . . . . 814  
Automatic reclaim (AUTORCL) . . . . . 815  
Remote data queue (RMTDTAQ) . . . . . 815  
Remote location (RMTLOCNAME) . . . . . 815  
Relational database (RDB) . . . . . 816  
APPC device description (DEV) . . . . . 816  
Local location (LCLLOCNAME) . . . . . 816  
Mode (MODE) . . . . . 816  
Remote network identifier (RMTNETID) . . . . . 817  
Text 'description' (TEXT) . . . . . 817  
Authority (AUT) . . . . . 817  
Examples. . . . . 818  
Error messages . . . . . 819

**Create Duplicate Object (CRTDUPOBJ) . . . . . 821**

Parameters . . . . . 823  
From object (OBJ) . . . . . 823  
From library (FROMLIB) . . . . . 824  
Object type (OBJTYPE) . . . . . 824  
To library (TOLIB). . . . . 824  
New object (NEWOBJ) . . . . . 825  
From ASP device (ASPDEV) . . . . . 825  
To ASP device (TOASPDEV) . . . . . 826  
Duplicate data (DATA) . . . . . 826  
Duplicate constraints (CST). . . . . 827  
Duplicate triggers (TRG) . . . . . 827  
Duplicate file identifiers (FILEID) . . . . . 827  
Examples. . . . . 827  
Error messages . . . . . 828

**Create Edit Description (CRTEDTD) 831**

Parameters . . . . . 831  
Edit description (EDTD). . . . . 831  
Integer mask (INTMASK) . . . . . 832  
Decimal point character (DECPNT) . . . . . 832  
Fraction mask (FRACMASK) . . . . . 833  
Fill character (FILLCHAR) . . . . . 833  
Currency symbol (CURSYM) . . . . . 833  
Edit zero values (ZEROBAL) . . . . . 834  
Negative status characters (NEGSTS) . . . . . 834  
Positive status characters (POSSTS) . . . . . 834  
Left constant characters (LFTCNS) . . . . . 834  
Right constant characters (RGTCNS). . . . . 835  
Text 'description' (TEXT) . . . . . 835  
Authority (AUT) . . . . . 835  
Examples. . . . . 836  
Error messages . . . . . 837

**Create Folder (CRTFLR). . . . . 839**

Parameters . . . . . 839  
Folder (FLR). . . . . 839  
In folder (INFLR) . . . . . 840  
Text 'description' (TEXT) . . . . . 840  
Authority (AUT) . . . . . 840  
Auxiliary storage pool ID (ASP) . . . . . 841  
Command character identifier (CMDCHRID). . . . . 841  
Examples. . . . . 841  
Error messages . . . . . 842

**Create Firmware Product (CRTFMWPRD). . . . . 843**

Parameters . . . . . 843  
Product identifier (PRDID) . . . . . 843  
Release (RLS) . . . . . 844  
Examples. . . . . 844  
Error messages . . . . . 844

**Create Font Resource (CRTFNTRSC) 845**

Parameters . . . . . 845  
Font resource (FNTRSC). . . . . 845  
Source file (FILE) . . . . . 846  
Source file member (MBR) . . . . . 846  
Font capture (FNTPCAPTURE) . . . . . 846  
Text 'description' (TEXT) . . . . . 847  
Replace font resource (REPLACE) . . . . . 847  
Authority (AUT) . . . . . 847  
Examples. . . . . 848  
Error messages . . . . . 848

**Create Font Table (CRTFNNTBL) . . . . . 851**

Parameters . . . . . 851  
Font table (FNNTBL) . . . . . 852  
Text 'description' (TEXT) . . . . . 853  
Authority (AUT) . . . . . 853  
Examples. . . . . 854  
Error messages . . . . . 854

**Create Form Definition (CRTFORMDF) 855**

Parameters . . . . . 855  
Form definition (FORMDF). . . . . 855  
Source file (FILE) . . . . . 856  
Source file member (MBR) . . . . . 856  
Text 'description' (TEXT) . . . . . 856  
Replace form definition (REPLACE) . . . . . 856  
Authority (AUT) . . . . . 857  
Examples. . . . . 857  
Error messages . . . . . 858

**Create Filter (CRTFTR) . . . . . 859**

Parameters . . . . . 859  
Filter (FILTER) . . . . . 859  
Type (TYPE). . . . . 859  
Text 'description' (TEXT) . . . . . 860  
Authority (AUT) . . . . . 860  
Examples. . . . . 861  
Error messages . . . . . 861



**Create Graphics Symbol Set (CRTGSS) . . . . . 863**

Parameters . . . . . 863  
Graphics symbol set (GSS) . . . . . 863  
File (FILE) . . . . . 864  
Member (MBR) . . . . . 864  
Text 'description' (TEXT) . . . . . 864  
Authority (AUT) . . . . . 864  
Examples . . . . . 865  
Error messages . . . . . 865

**Create ICF File (CRTICFF) . . . . . 867**

Parameters . . . . . 867  
File (FILE) . . . . . 868  
Source file (SRCFILE) . . . . . 868  
Source member (SRCMBR) . . . . . 868  
Generation severity level (GENLVL) . . . . . 869  
Flagging severity level (FLAG) . . . . . 869  
Program device to acquire (ACQPGMDEV) . . . . . 869  
Text 'description' (TEXT) . . . . . 869  
Source listing options (OPTION) . . . . . 870  
Maximum program devices (MAXPGMDEV) . . . . . 870  
Maximum record length (MAXRCLEN) . . . . . 870  
Maximum file wait time (WAITFILE) . . . . . 871  
Maximum record wait time (WAITRCD) . . . . . 871  
Data queue (DTAQ) . . . . . 871  
Share open data path (SHARE) . . . . . 872  
Record format level check (LVLCHK) . . . . . 872  
Authority (AUT) . . . . . 872  
Replace file (REPLACE) . . . . . 873  
Examples . . . . . 873  
Error messages . . . . . 873

**Create DBCS Conversion Dict (CRTIGCDCT) . . . . . 875**

Parameters . . . . . 875  
DBCS conversion dictionary (IGCDCT) . . . . . 875  
Text 'description' (TEXT) . . . . . 875  
Authority (AUT) . . . . . 876  
Examples . . . . . 876  
Error messages . . . . . 876

**Create Image Catalog (CRTIMGCLG) 877**

Parameters . . . . . 878  
Image catalog (IMGCLG) . . . . . 878  
Directory (DIR) . . . . . 879  
Image catalog type (TYPE) . . . . . 879  
Create directory (CRTDIR) . . . . . 879  
Import image catalog (IMPORT) . . . . . 879  
Catalog ASP threshold (CLGASPTHLD) . . . . . 880  
Add virtual volumes (ADDVRTVOL) . . . . . 880  
Reference image catalog (REFIMGCLG) . . . . . 881  
File and volume name prefix (PREFIX) . . . . . 881  
Image size (IMGSIZ) . . . . . 881  
Allocate storage size (ALCSTG) . . . . . 882  
Volume type (VOLTYP) . . . . . 882  
Tape density (DENSITY) . . . . . 882  
New owner identifier (NEWOWNID) . . . . . 882  
Code (CODE) . . . . . 883  
Text 'description' (TEXT) . . . . . 883

Authority (AUT) . . . . . 883  
Examples . . . . . 884  
Error messages . . . . . 885

**Create Job Description (CRTJOBDD) 887**

Parameters . . . . . 887  
Job description (JOBDD) . . . . . 888  
Job queue (JOBQ) . . . . . 889  
Job priority (on JOBQ) (JOBPTY) . . . . . 889  
Output priority (on OUTQ) (OUTPTY) . . . . . 889  
Print device (PRTDEV) . . . . . 889  
Output queue (OUTQ) . . . . . 890  
Text 'description' (TEXT) . . . . . 891  
User (USER) . . . . . 891  
Accounting code (ACGCDE) . . . . . 891  
Print text (PRTTXT) . . . . . 891  
Routing data (RTGDTA) . . . . . 892  
Request data or command (RQSDTA) . . . . . 892  
Initial library list (INLLIBL) . . . . . 892  
Initial ASP group (INLASPGRP) . . . . . 893  
Message logging (LOG) . . . . . 893  
Log CL program commands (LOGCLPGM) . . . . . 894  
Job log output (LOGOUTPUT) . . . . . 895  
Job message queue maximum size (JOBMSGQMX) . . . . . 895  
Job message queue full action (JOBMSGQFL) . . . . . 895  
CL syntax check (SYNTAX) . . . . . 896  
End severity (ENDSEV) . . . . . 896  
Inquiry message reply (INQMGRPY) . . . . . 896  
Hold on job queue (HOLD) . . . . . 897  
Job date (DATE) . . . . . 897  
Job switches (SWS) . . . . . 897  
Device recovery action (DEVRCYACN) . . . . . 897  
Time slice end pool (TSEPOOL) . . . . . 898  
Authority (AUT) . . . . . 898  
Allow multiple threads (ALWMLTTHD) . . . . . 899  
Spooled file action (SPLFACN) . . . . . 899  
DDM conversation (DDMCNV) . . . . . 900  
Examples . . . . . 900  
Error messages . . . . . 901

**Create Job Queue (CRTJOBQ) . . . . . 903**

Parameters . . . . . 903  
Job queue (JOBQ) . . . . . 903  
Text 'description' (TEXT) . . . . . 904  
Operator controlled (OPRCTL) . . . . . 904  
Authority to check (AUTCHK) . . . . . 904  
Authority (AUT) . . . . . 904  
Examples . . . . . 905  
Error messages . . . . . 905

**Create Journal (CRTJRN) . . . . . 907**

Parameters . . . . . 907  
Journal (JRN) . . . . . 908  
Journal receiver (JRNRCV) . . . . . 909  
ASP number (ASP) . . . . . 909  
Journal message queue (MSGQ) . . . . . 909  
Manage receivers (MNGRCV) . . . . . 910  
Delete receivers (DLTRCV) . . . . . 911  
Receiver size options (RCVSIZOPT) . . . . . 911  
Minimize entry specific data (MINENTDTA) . . . . . 912

Journal caching (JRNCACHE) . . . . .	913
Manage receiver delay time (MNGRCVDLY) . . . . .	913
Delete receiver delay time (DLTRCVDLY) . . . . .	914
Fixed length data (FIXLENDTA) . . . . .	914
Journal object limit (JRNOBJLMT) . . . . .	915
Text 'description' (TEXT) . . . . .	915
Authority (AUT) . . . . .	915
Examples . . . . .	916

Error messages . . . . .	917
--------------------------	-----

**Appendix. Notices . . . . . 919**

Programming interface information . . . . .	920
Trademarks . . . . .	921
Terms and conditions. . . . .	922
Code license and disclaimer information . . . . .	922

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# Commit (COMMIT)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

Parameters  
Examples  
Error messages

The Commit (COMMIT) command is used to complete the current transaction and to establish a new commitment boundary for the commitment definition associated with the program issuing the command.

The Start Commitment Control (STRCMTCTL) command must be issued first to establish the commitment definition before the COMMIT command is issued; otherwise, a message is sent.

When the COMMIT command is issued, all pending changes made to resources under commitment control for the commitment definition since the last commitment boundary was started are made permanent. A commitment identifier can be specified that is associated with this set of changes. If any files or API commitment resources associated with a journal are under commitment control, the commitment identifier is placed in the changes committed (CM) journal entry of each journal.

The commitment identifier is also used by the system when updating the notify object if it needs updating during activation group end, job end, or IPL (initial program load) processing.

No error occurs if there are no resources under commitment control for the commitment definition at the time the commit is issued. All record locks held for files opened under commitment control for the commitment definition are released when the commit is issued. Locks on object level commitment control resources, acquired when the resources are created or changed during the transaction, are released when the commit is issued.

More information on the COMMIT command is in the Commitment control topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

Top

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## Parameters

Keyword	Description	Choices	Notes
CMTID	Commit identification	Character value, <u>*NONE</u> , *LUWID	Optional, Positional 1

Top

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## Commit identification (CMTID)

Specifies the text used to identify a group of changes committed with the commitment boundary. This text is placed in the object specified on the NFYOBJ parameter of the STRCMTCTL command during IPL processing if an abnormal system failure occurs, or if a job ends with uncommitted changes or with a nonzero completion code.

### \*NONE

No text is used to identify the transaction committed with this commitment boundary.

## \*LUWID

The logical unit of work identifier and the default journal name for this logical unit of work are used to identify the group of changes being committed with this commitment boundary.

## 'description'

Specify a maximum of 3000 characters, enclosed in apostrophes, to identify the group of changes being committed with this commitment boundary.

Top

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## Examples

```
COMMIT CMTID('Account #123456 changes end')
```

This command specifies that all changes made to this point for the commitment definition associated with the program issuing the command are committed. The commitment identifier is 'Account #123456 changes end' and may be used by the system when updating the notify object if it needs updating during activation group end, job end, or IPL processing.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF5030

Partial damage on member &4.

#### CPF509F

Job has successfully connected after I/O error.

#### CPF5104

Cancel reply received for message &7.

#### CPF511D

Parameter integrity error occurred with reason code &1.

#### CPF5134

Not authorized to process request on member &4.

#### CPF5149

Operation for program device or member &4, file &2 in library &3 is not valid.

#### CPF5168

Cannot open member &3 file &1 in &2.

#### CPF5169

Cannot complete input or output (I/O) to DDM file &2 in &3.

#### CPF5173

&6 records in buffer not valid.

#### CPF5235

Entry for member &4 not journaled.

#### CPF5257

Failure for device or member &4 file &2 in library &3.

#### CPF5272

Records not added to member &4.



**CPF83DB**

Commit operation resulted in rollback.

**CPF83D0**

Commitment operation not allowed.

**CPF83E1**

Commit operation failed due to constraint violation.

**CPF83E2**

Rollback operation required.

**CPF835F**

Commit or rollback operation failed.

**CPF8350**

Commitment definition not found.

**CPF8363**

Commit operation failed.

**CPF8367**

Cannot perform commitment control operation.

**CPF9203**

Reply &1 received from DDM target system not expected.

**CPF9255**

Commitment control operation failed.

**\*STATUS Messages****CPF5001**

End of file &2 detected in library &3.

**CPF83E6**

Commitment control operation completed with resynchronization in progress.

**\*NOTIFY Messages****CPF5018**

Member &4 at maximum size. Increment not allowed.

**CPF502A**

Variable length record error on member &4.

**CPF502B**

Error occurred in trigger program.

**CPF502D**

Referential constraint violation on member &4.

**CPF502E**

Referential constraints could not be validated for member &4.

**CPF502F**

Check constraint violation on member &4.

**CPF5026**

Duplicate key not allowed for member &4.

**CPF5029**

Data mapping error on member &4.

**CPF503A**

Referential constraint violation on member &4.

**CPF503B**

Record could not be inserted or updated in member &4.

**CPF503F**

Partition key error on member &4.

**CPF5030**

Partial damage on member &4.

**CPF5033**

Select/omit error on member &4.

**CPF5034**

Duplicate key on access path.

**CPF5079**

Commitment control resource limit exceeded for this job.

**CPF5084**

Duplicate key not allowed for member &4.

**CPF5085**

Duplicate key on access path for based-on member of &4.

**CPF5090**

Unique access path problems prevent updates to member &4.

**CPF5097**

Key mapping error on member &4.

Top

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## Copy Object (COPY)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy Object (COPY) command copies a single object or a group of objects.

By default, if the target object already exists, the copy of that individual object will fail. If the REPLACE(\*YES) parameter is specified the target object is overwritten. The newly created object must be renamed if it is stored in the same directory as the original object. If it is stored in a directory other than the one that contains the original object, it can retain the name of the original object.

An object name pattern can be used to copy a group of related objects. A pattern cannot be used to copy a group of objects from one file system to another unless the names in the source meet the requirements of the target file system. For example, a file named /OBJA in QOpenSys cannot be copied to directory /QSYS.LIB/MYLIB.LIB/FILEA.FILE, because the QSYS.LIB file system requires a name in the form OBJA.MBR when writing to a file. All names found within the pattern would fail if they did not meet the requirement of name.object-type.

The copy command can also be used to copy a directory tree where the specified directory, its contents, and the contents of all of its subdirectories are copied. If SUBTREE(\*ALL) is specified, the command will attempt to copy as many objects as possible within the subtree. A diagnostic message will be sent for each object that could not be copied. When all of the objects have been attempted, an escape message will be sent if there were any errors. If all of the objects were copied with no errors, then a completion message will be sent.

A subtree copy will attempt to preserve as many attributes from the original objects as possible. This would make it possible to migrate data from one file system to another.

If the original object is a read-only file (a file that has the PC read-only attribute flag turned on), and SUBTREE(\*NODIR) is specified, the newly created object will **not** be read-only. This follows the conventions of the OS/2 hierarchical file system (HFS).

**Note:** When the value of the **Directory subtree (SUBTREE)** parameter is \*NONE or \*ALL, the PC read-only attribute flag will be copied.

When the **To directory (TODIR)** parameter is specified, the object is copied to that directory with the same name. The user who issues the command owns the copied object if the **Owner (OWNER)** parameter value is \*NEW. Other authority values for the copied object depend on the value specified for the **Authority (AUT)** parameter.

When copying a file with SUBTREE(\*NODIR) specified to the "root" (/), QOpenSys, QDLS, and UDFS file systems, the Last access date/time and the Data change date/time are preserved in the new file, and the Attribute change date/time is updated to the current time. The Last access date/time of the original file is updated to the current time. In the case of copying to a database file member (\*MBR) in the QSYS.LIB or independent ASP QSYS.LIB file systems, the Data change date/time is updated as well.

**Note:** If the parameter SUBTREE(\*NODIR) is specified, the Create date/time is updated to the current time as well.

This command is an alias for the Copy Object (CPY) command and can also be issued using the following alternative command name:

- CPY

In addition to the COPY command, the Copy To Stream File (CPYTOSTMF) and Copy From Stream File (CPYFRMSTMF) commands can be used to copy between stream files and database member files or save files.

For more information about integrated file system commands, see the Integrated file system topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Restrictions:**

- The command will copy the object’s public and private authorities where it is supported.

**Note:** The authority requirements for this command are complex with respect to file systems, object types, requested operations etc.. Therefore, see the System i Security Reference, SC41-5302 book for information about the required authorities for this command.

**QSYS.LIB and Independent ASP QSYS.LIB File System Differences**

- If copying to a database file member from a different object type, or copying to or from a member not in the current job’s library name space, some attributes are copied. See Integrated file system topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for more information.
- When copying a database member to another member within the same library name space, attributes are handled in the same manner as the Copy File (CPYF) command (this only applies if the **Data Format (DTAFMT)** parameter is \*BINARY).
- Other object types copied are handled the way the Create Duplicate Object (CRTDUPOBJ) command handles attributes (this only applies if the DTAFMT parameter is \*BINARY).
- The REPLACE(\*YES) option is only supported on file members, user spaces, and save files when the target object exists. All other object types will fail when the target object exists.

**QOPT File System Differences**

- If copying a file within the QOPT file system, the Create date/time is always updated to the current time.

**QFileSvr.400 File System Differences**

- The OWNER(\*KEEP) parameter is not supported when copying an object to the QFileSvr.400 File System. The copy will fail with error message CPFA0AD.
- The scan-related attributes are not copied.

**Network File System (NFS) Differences**

- The OWNER(\*KEEP) parameter is not supported when copying an object to or from a mounted Network File System (NFS) directory. The copy will fail with error message CPFA0AD.
- The scan-related attributes are not copied.

Top

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## Parameters

Keyword	Description	Choices	Notes
OBJ	Object	<i>Path name</i>	Required, Positional 1
TODIR	To directory	<i>Path name, ‘.’</i>	Optional, Positional 2

Keyword	Description	Choices	Notes
TOOBJ	To object	<i>Path name</i>	Optional
SYMLNK	Symbolic link	*NO, *YES	Optional
FROMCCSID	From CCSID	1-65533, *OBJ, *PCASCII, *JOBCCSID	Optional
TOCCSID	To CCSID	1-65533, *OBJ, *CALC, *STDASCII, *PCASCII, *JOBCCSID	Optional
DTAFMT	Data Format	*BINARY, *TEXT	Optional
SUBTREE	Directory subtree	*NODIR, *NONE, *ALL	Optional
REPLACE	Replace object	*NO, *YES	Optional
OWNER	Owner	*NEW, *KEEP	Optional
AUT	Authority	*OBJ, *INDIR, *INDIROBJ	Optional
FROMCODPAG	From code page	1-32767, *OBJ, *PCASCII	Optional
TOCODEPAGE	To code page	1-32767, *OBJ, *CALC, *STDASCII, *PCASCII	Optional

Top

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## Object (OBJ)

Specifies the path name of the object or a pattern to match the name of the object to be copied.

The object path name can be either a simple name or a name that is qualified with the name of the directory in which the object is located. A pattern can be specified in the last part of the path name. An asterisk (\*) matches any number of characters and a question mark (?) matches a single character. If the path name is qualified or contains a pattern, it must be enclosed in apostrophes.

**Note:** An object name pattern can be used to copy multiple objects only when the **To directory (TODIR)** parameter is specified.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## To directory (TODIR)

Specifies the path name of the directory to copy the object into. When this parameter is used, the copied object has the same name as the **Object (OBJ)** parameter specified.

· The object is copied to the current directory with the same name as the existing object.

*directory-path-name*

Specify the path name of the existing directory to copy the object into.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## To object (TOOBJ)

Specifies the path name of the copied object. This is the name of the new object, including the path or relative path.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## Symbolic link (SYMLNK)

Specifies whether to copy the object or a symbolic link to the object.

**\*NO** The object, not a symbolic link to the object, is copied.

**\*YES** If the object to be copied is a symbolic link, the symbolic link is copied, instead of copying the object that the symbolic link points to.

**Note:** If a symbolic link is encountered during the copy of a subtree, the object it points to is copied. If the symbolic link points to a directory, the directory is copied but its contents are not. This is true even when the top-level directory of the directory tree is actually a symbolic link to a directory.

Top

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## From CCSID (FROMCCSID)

Specifies the method for obtaining the coded character set identifier (CCSID) for the source of the copy operation. This CCSID will be used for data conversion, if requested. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From code page (FROMCODPAG)** or **To code page (TOCODEPAGE)** parameters.

**\*OBJ** Use the data CCSID of the object to be copied.

**\*PCASCII**

Use the data CCSID of the object to be copied to compute a CCSID in the Microsoft Windows encoding scheme (x4105) (Microsoft, Windows, Windows NT, and the Windows 95 logo are registered trademarks of Microsoft Corporation). Use this as the CCSID from which the data will be converted when DTAFMT(\*TEXT) is specified. This option allows data from PCs to be converted properly if the data was created using Microsoft Windows.

**\*JOBCCSID**

The CCSID from the default job CCSID is used.

1-65533

Specify a CCSID value.

Top

---

## To CCSID (TOCCSID)

Specifies the data coded character set identifier (CCSID) for the target of the copy operation. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From code page (FROMCODPAG)** or **To code page (TOCODEPAGE)** parameters.

**\*OBJ** Use the data CCSID of the object to be copied. If this CCSID cannot be used by the file system that the object is to be copied into, the copy operation will fail.

**\*CALC**

Use the data CCSID of the object to be copied. If this CCSID cannot be used by the file system that the object is to be copied into, allow the file system to determine a different CCSID and continue with the copy.

**\*STDASCII**

Compute a CCSID in the IBM PC Data encoding scheme (x2100), based on the source file's CCSID. Associate this CCSID for the target of the copy operation and, if DTAFMT(\*TEXT) is specified, also use this CCSID for the data conversion. If this CCSID cannot be used by the file system that the object is to be copied into, the copy operation will fail.

**\*PCASCII**

Compute a CCSID in the Microsoft Windows encoding scheme (x4105), based on the source file's CCSID (Microsoft, Windows, Windows NT, and the Windows 95 logo are registered trademarks of Microsoft Corporation). Associate this CCSID with the target of the copy operation and, if DTAFMT(\*TEXT) is specified, also use this CCSID for the data conversion. This option allows the resulting data to be used by Microsoft Windows applications. If this CCSID cannot be used by the file system that the object is to be copied into, the copy operation will fail.

**\*JOBCCSID**

The CCSID from the default job CCSID is used.

1-65533

Specify a CCSID value.

Top

---

## Data Format (DTAFMT)

Specifies the format of the data in the file to be copied.

**\*BINARY**

The file contains data in binary format (such as an executable file).

Do not convert data on the copy. However, if the object to be copied to has a different CCSID than the source object, all extended attributes will be converted into the CCSID of the new object before being set.

**\*TEXT**

The file contains data in textual form. Convert data to the CCSID of the new object during the copy. The data is processed as text during the copy.

If a database member is to be copied to a stream file, any line-formatting characters (such as carriage return, tab, and end-of-file) are just converted from one CCSID to another.

If a stream file is to be copied to a database member, the stream file must contain end-of-line characters or the copy will fail. If the stream file does contain end-of-line characters, the following actions are performed during the copy to a database file.

- End-of-line characters are removed.
- Records are padded with blanks (for a source physical file member) or nulls (for a data physical file member).
- Tab characters are replaced by the appropriate number of blanks to the next tab position.

Top

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## Directory subtree (SUBTREE)

Specifies whether or not to copy a directory subtree if the object specified by **Object (OBJ)** parameter is a directory.

### **\*NODIR**

The object or objects specified by OBJ are copied. If an object is a directory, the copy will fail unless the target directory specified on the TODIR keyword is the directory in which the source object already exists. In this case, no action is performed and a successful completion message is issued.

### **\*NONE**

The objects specified by OBJ are copied. Directory objects are copied but their contents are not copied.

**\*ALL** The objects specified by OBJ are copied. Directory objects are copied as well as their contents and the contents of all subdirectories.

There are a few differences in how attributes are copied when SUBTREE(\*NONE) or SUBTREE(\*ALL) is specified instead of the default SUBTREE(\*NODIR). A directory subtree copy preserves as much of the original objects' attributes as possible.

- The PC read-only attribute flag is turned off in the copied object. If SUBTREE(\*NONE) or SUBTREE(\*ALL) is specified the flag will be copied.
- The Create date/time will be copied if SUBTREE(\*NONE) or SUBTREE(\*ALL) is specified (by default it is updated to the current time).

**Note:** The copy will fail if the target object is a subdirectory of the source object, or if the target object matches the source object.

**Note:** Pattern matching on the OBJ parameter only applies to the first level objects. If the first level object is a directory, the pattern matching does not apply to its contents or the contents of its subdirectories.

Once the command has begun processing a specific directory subtree, the objects which will be found and processed may be affected by operations that update the organization of objects within the specified directory tree. This includes, but is not limited to, the following:

- Adding, removing, or renaming object links
- Mounting or unmounting file systems
- Updating the effective root directory for the process calling the command
- Updating the contents of a symbolic link

In order to process the directory subtree, the system code may increase the process-scoped maximum number of file descriptors that can be opened during processing. This is done so that the command is not likely to fail due to a lack of descriptors. This process-scoped maximum value is not reset when the command completes.



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## Replace object (REPLACE)

Specifies whether the target object is replaced if it already exists.

**\*NO** The target object is not replaced if it already exists.

**\*YES** If the target object already exists, it is replaced. If REPLACE(\*YES) is specified with a directory object, the attributes of the existing target directory are changed but the objects that the directory contains are not removed.

Top

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## Owner (OWNER)

Specifies the owner of the newly created object.

**\*NEW** The owner of the new object is the current user profile of the job. Even if the target object already exists and is owned by someone other than the current user profile of the job, the owner of the target object will be changed to be the current user profile of the job.

**\*KEEP**

The owner of the new object is the same as the owner of the original object to be copied.

Some file systems do not support changing the owner of certain object types. For example, the owner of \*MBR objects in the QSYS.LIB and independent ASP QSYS.LIB file systems will be determined by the owner of the \*FILE object that they are copied into.

Top

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## Authority (AUT)

Specifies the method used to assign authority information to copied objects.

**\*OBJ** The authority information for copied objects is based on the authority for the object specified on the **Object (OBJ)** parameter. Target objects are assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the objects being copied. If the target file system does not support setting all of these values, the unsupported values will be ignored.

**\*INDIR**

The authority information for copied objects is based on the authority for the directory where the objects are to be created. Target objects are assigned the same public authority, private authorities, primary group, primary group authority, and authorization list as the directory in which they are created. The auditing value assigned to copied objects is controlled by the directory's create object auditing value. If the target file system does not support the \*INDIR value, the command will fail with error message CPFA0AD. If the target object already exists, this value is ignored and no authority information will be copied.

**\*INDIROBJ**

The authority information for copied objects is initially based on the authority for the directory where the objects are to be created. Then, authority information from the object specified on the **OBJ** parameter will be copied to the target object. If the copy is successful, target objects will be assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the objects being copied, as well as any additional private authorities obtained from the directory. The resulting authority information will be similar to that produced by copying and pasting objects using the System i Navigator.

If the target file system does not support the \*INDIROBJ special value, the command will fail with error message CPFA0AD. If the target object already exists, no private authority information will be copied from the directory and the result will be the same as if \*OBJ had been specified.

Top

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## From code page (FROMCODPAG)

Specifies the method for obtaining the code page for source of the copy operation. This code page will be used for data conversion, if requested. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From CCSID (FROMCCSID)** or **To CCSID (TOCCSID)** parameters.

**Note:** This parameter is replaced by **From CCSID (FROMCCSID)** but the FROMCODPAG parameter can still be used. However, because this parameter may be removed in a later release, whenever possible use the FROMCCSID parameter.

**\*OBJ** Use the data code page of the object to be copied.

### **\*PCASCII**

Use the data code page of the object to be copied to compute a code page in the Microsoft Windows encoding scheme (x4105) (Microsoft, Windows, Windows NT, and the Windows 95 logo are registered trademarks of Microsoft Corporation). Use this as the code page from which the data will be converted when DTAFMT(\*TEXT) is specified. This option allows data from PCs to be converted properly if the data was created using Microsoft Windows.

1-32767

Specify a code page value.

Top

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## To code page (TOCODEPAGE)

Specifies the data code page for the target of the copy operation. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From CCSID (FROMCCSID)** or **To CCSID (TOCCSID)** parameters.

**Note:** This parameter is replaced by **To CCSID (TOCCSID)** but the TOCODEPAGE parameter can still be used. However, because this parameter may be removed in a later release, whenever possible use the TOCCSID parameter.

**\*OBJ** Use the data code page of the object to be copied. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

### **\*CALC**

Use the data code page of the object to be copied. If this code page cannot be used by the file system that the object is to be copied into, allow the file system to determine a different code page and continue with the copy.

### **\*STDASCII**

Compute a code page in the IBM PC Data encoding scheme (x2100), based on the source file's code page. Associate this code page for the target of the copy operation and, if DTAFMT(\*TEXT)

is specified, also use this code page for the data conversion. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

#### **\*PCASCI**

Compute a code page in the Microsoft Windows encoding scheme (x4105), based on the source file's code page. Associate this code page with the target of the copy operation and, if DTAFMT(\*TEXT) is specified, also use this code page for the data conversion. This option allows the resulting data to be used by Microsoft Windows applications. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

#### **1-32767**

Specify a code page value. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

Top

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## **Examples**

The alternative command name for COPY is CPY. The following examples use the alternative command name, but COPY can be replaced directly for CPY in all of them.

### **Example 1: Copying a File**

```
CPY OBJ('DECEMBER-1994-MONTHLY-PAYROLL-FILE') TOOBJ('PAY')
```

This command creates another file named PAY that is a duplicate of the file named DECEMBER-1994-MONTHLY-PAYROLL-FILE.

### **Example 2: Copying a File to Another Directory**

```
CPY OBJ('PAY') TODIR('MYDIR')
```

This command creates another file named PAY in directory MYDIR.

### **Example 3: Copying a Symbolic Link**

```
CPY OBJ('SL1') TOOBJ('YOURDIR/SL2') SYMLNK(*YES)
```

If SL1 is a symbolic link, the new object YOURDIR/SL2 is also a symbolic link. If SYMLNK(\*NO) was specified, the new object would be a copy of whatever SL1 pointed to, as long as it was a legal candidate for the copy function.

### **Example 4: Copying with Conversion**

```
CPY OBJ('/DATAFB')  
    TOOBJ('/QSYS.LIB/APP1.LIB/DATA.FILE/DATAFB.MBR')  
    TOCCSID(*CALC) DTAFMT(*TEXT)
```

This command copies stream file 'DATAFB' to the database file 'DATAFB.MBR'. By specifying TOCCSID(\*CALC), the file system being copied to (the QSYS.LIB file system in this case) will try to create the new member in the same coded character set identifier (CCSID) as '/DATAFB'. If this fails (in this case, if 'DATA.FILE' is not in the same CCSID as 'DATAFB'), the file system will be allowed to choose

an appropriate CCSID and complete the copy. By specifying DTAFMT(\*TEXT), the data in 'DATAFB' is handled as text and is converted into the CCSID chosen for the new file 'DATAFB.MBR'.

#### Example 5: Copying a Directory Subtree

```
CPY OBJ('/QDLS/MYINFO') TODIR('/myfolder') SUBTREE(*ALL)
    OWNER(*KEEP) REPLACE(*YES)
```

The \*FLR object (QDLS file system folder) is created in the '/myfolder' directory in the "root" (/) file system with the path name '/myfolder/MYINFO'. Its contents are copied as well. Since OWNER(\*KEEP) is specified, the new objects created will belong to the same profiles as the old objects. With the REPLACE parameter set to \*YES if any of the target files already exist they will be overwritten.

#### Example 6: Copying a File With Authority Copied from the Directory

```
CPY OBJ('PAY') TODIR('MYDIR') AUT(*INDIR)
```

This command creates another file named PAY in directory MYDIR. All of the authority values, such as \*PUBLIC authority, authorization list, and primary group authority are copied from directory MYDIR and applied to the new file PAY.

Top

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## Error messages

### \*ESCAPE Messages

#### CPFA082

\*ADD authority required to owner's user profile.

#### CPFA083

Insufficient authority to replace object. Object is &1.

#### CPFA085

Home directory not found for user &1.

#### CPFA08E

More than one name matches pattern.

#### CPFA093

Name matching pattern not found.

#### CPFA09C

Not authorized to object. Object is &1.

#### CPFA09D

Error occurred in program &1.

#### CPFA0A1

An input or output error occurred.

#### CPFA0A3

Path name resolution causes looping.

#### CPFA0A6

Number of links exceeds maximum allowed for the file system.

#### CPFA0A7

Path name too long.

**CPFA0A9**

Object not found. Object is &1.

**CPFA0AA**

Error occurred while attempting to obtain space.

**CPFA0AB**

Operation failed for object. Object is &1.

**CPFA0AD**

Function not supported by file system.

**CPFA0B0**

Request not allowed to operate from one file system to another.

**CPFA0B1**

Requested operation not allowed. Access problem.

**CPFA0B2**

No objects satisfy request.

**CPFA0BB**

&1 objects copied. &2 objects failed.

**CPFA0C4**

Object not a file. Object is &1.

**CPFA0DA**

Object is a directory. Object is &1.

**CPFB41E**

Object type must match replaced object type.

Top



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## Copyright (COPYRIGHT)

### Where allowed to run:

- Batch ILE CL module (\*BMOD)
- Interactive ILE CL module (\*IMOD)

Threadsafe: Yes

Parameters  
Examples  
Error messages

The Copyright (COPYRIGHT) command defines the text of a copyright statement to be added to a CL module.

### Restrictions:

- The COPYRIGHT command is valid only within an ILE CL module.
- If used, the COPYRIGHT command must follow the PGM command and must precede any other commands except for DCL, DCLF, and DCLPRCOPT.
- Only one COPYRIGHT command will be used by the CL compiler; if more than one are specified, only the first one is used, and warning messages will be issued for additional COPYRIGHT statements.

Top

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## Parameters

Keyword	Description	Choices	Notes
TEXT	Copyright text	<i>Character value</i>	Required, Positional 1

Top

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## Copyright text (TEXT)

Specifies the copyright text to be inserted into the module.

*'copyright-text'*

Specify the text to be used for the copyright statement. The text will be used exactly as specified. The maximum length allowed is 256 characters.

Top

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## Examples

### Example 1: Setting the Copyright Text for a CL Module

```
COPYRIGHT TEXT('Copyright ACME Corp. 1995. All rights reserved.')
```

This command specifies the copyright text for the module being created. This text will be displayed when a user runs the Display Module (DSPMOD) command, specifying DETAIL(\*COPYRIGHT), for the module.

Top

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## Error messages

None

[Top](#)



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## Compress Object (CPROBJ)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Compress Object (CPROBJ) command allows you to compress programs, panel groups, menus, display files, printer files, modules, and service programs.

- Compressed Objects are objects that consume less storage space than decompressed objects. When a compressed object is used or a compressed program is called, a decompressed version of the object automatically becomes available to the user.
- Decompressed Objects are objects that use the system storage space allocated to them and are in a final, ready-to-use state.
- Temporarily Decompressed Objects are temporarily decompressed copies of compressed objects. The system allocates storage space for the temporary copies until the system or the user determines that the temporary storage space needs to be reclaimed.

Temporary storage is automatically reclaimed when:

- The RCLTMPSTG command is run
- The next initial program load (IPL) is run
- The object is used often enough to cause the system to permanently decompress it

When an object is permanently decompressed, the compressed version of the object is destroyed as well as any temporary forms of the object; however, compressed versions remain intact as long as the objects are temporarily decompressed.

### Restrictions:

1. The user must have \*OBJMGT authority to the object specified and \*EXECUTE authority to the library containing the object.
2. Objects that were saved with storage freed cannot be compressed or decompressed.
3. Objects that are compressed cannot be saved for a release prior to Version 2, Release 1 of the operating system.
4. Programs without a valid validation value are not compressed.
5. Programs that were created before Version 1, Release 3 of the operating system and have not been retranslated (using the Change Program (CHGPGM) command) can not be compressed because no validation value has been generated.
6. A program, service program, or module that was created prior to Version 3, Release 6 of the operating system must be retranslated before the object can be compressed. Retranslate the object using the CHGPGM, CHGSRVPGM, or CHGMOD commands.
7. To compress a system program, the user must end all active subsystems.
8. To prevent abnormal end of a program, the program must not be running in the system when it is compressed.

Top

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## Parameters

Keyword	Description	Choices	Notes
OBJ	Object	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Object	<i>Generic name, name, *ALL</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB, *ALL, *ALLUSR, *USRLIBL</i>	
OBJTYPE	Object type	Values (up to 6 repetitions): *ALL, *FILE, *MENU, *MODULE, *PGM, *PNLGRP, *SRVPGM	Required, Positional 2
DAYS	Days unused	1-366, *NONE	Optional
PGMOPT	Program option	*ALL, *OBS	Optional

Top

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### Object (OBJ)

Specifies the name and library of the object to be compressed.

This is a required parameter.

The possible values are:

**\*ALL** All objects in the specified library of the object type specified on the **Object type** prompt (OBJTYPE parameter) are compressed.

**generic\*-object-name**

Specify the generic name of the object to be compressed. A generic name is a character string that contains one or more characters followed by an asterisk (\*).

**object-name**

Specify the name of the object to be compressed.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*USRLIBL**

If a current library entry exists in the library list for the current thread, the current library and the libraries in the user portion of the library list are searched. If there is no current library entry, only the libraries in the user portion of the library list are searched.

**\*CURLIB**

Only the current library is searched. If no current library entry exists in the library list, QGPL is used.

**\*ALL** All libraries in the system, including QSYS, are searched.

**\*ALLUSR**

All user libraries are searched. All libraries with names that do not begin with the letter Q are searched except for the following:

#CGULIB    #DSULIB    #SEULIB  
#COBLIB    #RPGLIB  
#DFULIB    #SDALIB

Although the following Qxxx libraries are provided by IBM, they typically contain user data that changes frequently. Therefore, these libraries are considered user libraries and are also searched:

QDSNX	QRCLxxxxx	QUSRDIRB	QUSRVI
QGPL	QSRVAGT	QUSRIJS	QUSRVxRxMx
QGPL38	QSYS2	QUSRINFSKR	
QMGTC	QSYS2xxxxx	QUSRNOTES	
QMGTC2	QS36F	QUSROND	
QMPGDATA	QUSER38	QUSRPOSGS	
QMOMDATA	QUSRADSM	QUSRPOSSA	
QMOMPROC	QUSRBRM	QUSRPYMSVR	
QPFRDATA	QUSRDIRCF	QUSRDRARS	
QRCL	QUSRDIRCL	QUSRSYS	

1. 'xxxxx' is the number of a primary auxiliary storage pool (ASP).
2. A different library name, in the format QUSRVxRxMx, can be created by the user for each previous release supported by IBM to contain any user commands to be compiled in a CL program for the previous release. For the QUSRVxRxMx user library, VxRxMx is the version, release, and modification level of a previous release that IBM continues to support.

*library-name*

Specify the name of the library to be searched.

Top

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## Object type (OBJTYPE)

Specifies the type of object to be compressed. You can specify \*ALL, or you can specify one or more of the other possible values.

This is a required parameter.

You can enter multiple values for this parameter.

The possible values are:

- \*ALL All menus, panel groups, display and printer device files, programs, modules, and service programs with the name and library specified on the **Object** prompt (OBJ parameter) are compressed.
- \*FILE Display and printer device files with the name and library specified on the **Object** prompt (OBJ parameter) are compressed.
- \*MENU Menus with the name and library specified on the **Object** prompt (OBJ parameter) are compressed.
- \*MODULE Modules with the name and library specified on the **Object** prompt (OBJ parameter) are compressed.
- \*PNLGRP Panel groups with the name and library specified on the **Object** prompt (OBJ parameter) are compressed.
- \*PGM Programs with the name and library specified on the **Object** prompt (OBJ parameter) are compressed.
- \*SRVPGM Service programs with the name and library specified on the **Object** prompt (OBJ parameter) are compressed.

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## Days unused (DAYS)

Specifies the number of days the object has not been used or changed. If the object has not been used or changed for more than the specified number of days, it is compressed. If it has been used or changed, it is left decompressed.

The possible values are:

**\*NONE**

The object is compressed regardless of the number of days it has not been used or changed.

**1-366** Specify the number of days. Valid values range from 1 through 366.

Top

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## Program option (PGMOPT)

Specifies whether the entire program or service program or only the observability tables are compressed.

The possible values are:

**\*ALL** The entire program or service program (instruction stream and observability tables) is compressed.

**\*OBS** Only the observability tables are compressed.

Top

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## Examples

```
CPROBJ OBJ(QGPL/*ALL) OBJTYPE(*FILE)
```

This command compresses all display and printer files in library QGPL.

Top

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## Error messages

### \*ESCAPE Messages

**CPF2110**

Library &1 not found.

**CPF2113**

Cannot allocate library &1.

**CPF2176**

Library &1 damaged.

**CPF3B01**

Cannot compress or decompress object &1 in &2.

**CPF3B02**

Cannot compress or decompress file &1 in &2.

**CPF3B03**  
No objects compressed.

**CPF3B04**  
&1 objects compressed; &3 not compressed; &8 not included.

**CPF3B08**  
Cannot allocate object &1 in &2.

**CPF3B09**  
Not all subsystems ended.

**CPF3B10**  
Cannot compress object &1 in &2 type \*&3.

**CPF3B11**  
Cannot compress object &1 in &2 type \*&3.

**CPF8108**  
Device file or save file &4 in &9 damaged.

**CPF812E**  
Module &4 in &9 damaged.

**CPF8129**  
Program &4 in &9 damaged.

**CPF813D**  
Service program &4 in &9 damaged.

**CPF8150**  
Panel group &4 in &9 damaged.

**CPF8151**  
Menu &4 in &9 damaged.

**CPF9570**  
Error occurred creating or accessing debug data.

**CPF9802**  
Not authorized to object &2 in &3.

**CPF9803**  
Cannot allocate object &2 in library &3.

**CPF9804**  
Object &2 in library &3 damaged.

**CPF9806**  
Cannot perform function for object &2 in library &3.

**CPF9807**  
One or more libraries in library list deleted.

**CPF9808**  
Cannot allocate one or more libraries on library list.

**CPF9811**  
Program &1 in library &2 not found.

**CPF9812**  
File &1 in library &2 not found.

**CPF9821**  
Not authorized to program &1 in library &2.

**CPF9822**

Not authorized to file &1 in library &2.

**CPF9838**

User profile storage limit exceeded.

[Top](#)

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## Copy Object (CPY)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy Object (CPY) command copies a single object or a group of objects.

By default, if the target object already exists, the copy of that individual object will fail. If the REPLACE(\*YES) parameter is specified the target object is overwritten. The newly created object must be renamed if it is stored in the same directory as the original object. If it is stored in a directory other than the one that contains the original object, it can retain the name of the original object.

An object name pattern can be used to copy a group of related objects. A pattern cannot be used to copy a group of objects from one file system to another unless the names in the source meet the requirements of the target file system. For example, a file named /OBJA in QOpenSys cannot be copied to directory /QSYS.LIB/MYLIB.LIB/FILEA.FILE, because the QSYS.LIB file system requires a name in the form OBJA.MBR when writing to a file. All names found within the pattern would fail if they did not meet the requirement of name.object-type.

The copy command can also be used to copy a directory tree where the specified directory, its contents, and the contents of all of its subdirectories are copied. If SUBTREE(\*ALL) is specified, the command will attempt to copy as many objects as possible within the subtree. A diagnostic message will be sent for each object that could not be copied. When all of the objects have been attempted, an escape message will be sent if there were any errors. If all of the objects were copied with no errors, then a completion message will be sent.

A subtree copy will attempt to preserve as many attributes from the original objects as possible. This would make it possible to migrate data from one file system to another.

If the original object is a read-only file (a file that has the PC read-only attribute flag turned on), and SUBTREE(\*NODIR) is specified, the newly created object will **not** be read-only. This follows the conventions of the OS/2 hierarchical file system (HFS).

**Note:** When the value of the **Directory subtree (SUBTREE)** parameter is \*NONE or \*ALL, the PC read-only attribute flag will be copied.

When the **To directory (TODIR)** parameter is specified, the object is copied to that directory with the same name. The user who issues the command owns the copied object if the **Owner (OWNER)** parameter value is \*NEW. Other authority values for the copied object depend on the value specified for the **Authority (AUT)** parameter.

When copying a file with SUBTREE(\*NODIR) specified to the "root" (/), QOpenSys, QDLS, and UDFS file systems, the Last access date/time and the Data change date/time are preserved in the new file, and the Attribute change date/time is updated to the current time. The Last access date/time of the original file is updated to the current time. In the case of copying to a database file member (\*MBR) in the QSYS.LIB or independent ASP QSYS.LIB file systems, the Data change date/time is updated as well.

**Note:** If the parameter SUBTREE(\*NODIR) is specified, the Create date/time is updated to the current time as well.

This command can also be issued using the following alternative command name:

- COPY

In addition to the CPY command, the Copy To Stream File (CPYTOSTMF) and Copy From Stream File (CPYFRMSTMF) commands can be used to copy between stream files and database member files or save files.

For more information about integrated file system commands, see the Integrated file system topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Restrictions:**

- The command will copy the object’s public and private authorities where it is supported.

**Note:** The authority requirements for this command are complex with respect to file systems, object types, requested operations etc.. Therefore, see the System i Security Reference, SC41-5302 book for information about the required authorities for this command.

**QSYS.LIB and Independent ASP QSYS.LIB File System Differences**

- If copying to a database file member from a different object type, or copying to or from a member not in the current job’s library name space, some attributes are copied. See Integrated file system topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for more information.
- When copying a database member to another member within the same library name space, attributes are handled in the same manner as the Copy File (CPYF) command (this only applies if the **Data Format (DTAFMT)** parameter is \*BINARY).
- Other object types copied are handled the way the Create Duplicate Object (CRTDUPOBJ) command handles attributes (this only applies if the DTAFMT parameter is \*BINARY).
- The REPLACE(\*YES) option is only supported on file members, user spaces, and save files when the target object exists. All other object types will fail when the target object exists.

**QOPT File System Differences**

- If copying a file within the QOPT file system, the Create date/time is always updated to the current time.

**QFileSvr.400 File System Differences**

- The OWNER(\*KEEP) parameter is not supported when copying an object to the QFileSvr.400 File System. The copy will fail with error message CPFA0AD.
- The scan-related attributes are not copied.

**Network File System (NFS) Differences**

- The OWNER(\*KEEP) parameter is not supported when copying an object to or from a mounted Network File System (NFS) directory. The copy will fail with error message CPFA0AD.
- The scan-related attributes are not copied.

Top

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**Parameters**

Keyword	Description	Choices	Notes
OBJ	Object	<i>Path name</i>	Required, Positional 1
TODIR	To directory	<i>Path name, ‘.’</i>	Optional, Positional 2
TOOBJ	To object	<i>Path name</i>	Optional
SYMLNK	Symbolic link	<b>*NO, *YES</b>	Optional



Keyword	Description	Choices	Notes
FROMCCSID	From CCSID	1-65533, * <b>OBJ</b> , *PCASCII, *JOBCCSID	Optional
TOCCSID	To CCSID	1-65533, * <b>OBJ</b> , *CALC, *STDASCII, *PCASCII, *JOBCCSID	Optional
DTAFMT	Data Format	* <b>BINARY</b> , *TEXT	Optional
SUBTREE	Directory subtree	* <b>NODIR</b> , *NONE, *ALL	Optional
REPLACE	Replace object	* <b>NO</b> , *YES	Optional
OWNER	Owner	* <b>NEW</b> , *KEEP	Optional
AUT	Authority	* <b>OBJ</b> , *INDIR, *INDIROBJ	Optional
FROMCODPAG	From code page	1-32767, * <b>OBJ</b> , *PCASCII	Optional
TOCODEPAGE	To code page	1-32767, * <b>OBJ</b> , *CALC, *STDASCII, *PCASCII	Optional

Top

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## Object (OBJ)

Specifies the path name of the object or a pattern to match the name of the object to be copied.

The object path name can be either a simple name or a name that is qualified with the name of the directory in which the object is located. A pattern can be specified in the last part of the path name. An asterisk (\*) matches any number of characters and a question mark (?) matches a single character. If the path name is qualified or contains a pattern, it must be enclosed in apostrophes.

**Note:** An object name pattern can be used to copy multiple objects only when the **To directory (TODIR)** parameter is specified.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## To directory (TODIR)

Specifies the path name of the directory to copy the object into. When this parameter is used, the copied object has the same name as the **Object (OBJ)** parameter specified.

· The object is copied to the current directory with the same name as the existing object.

### *directory-path-name*

Specify the path name of the existing directory to copy the object into.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

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## To object (TOOBJ)

Specifies the path name of the copied object. This is the name of the new object, including the path or relative path.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## Symbolic link (SYMLNK)

Specifies whether to copy the object or a symbolic link to the object.

**\*NO** The object, not a symbolic link to the object, is copied.

**\*YES** If the object to be copied is a symbolic link, the symbolic link is copied, instead of copying the object that the symbolic link points to.

**Note:** If a symbolic link is encountered during the copy of a subtree, the object it points to is copied. If the symbolic link points to a directory, the directory is copied but its contents are not. This is true even when the top-level directory of the directory tree is actually a symbolic link to a directory.

Top

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## From CCSID (FROMCCSID)

Specifies the method for obtaining the coded character set identifier (CCSID) for the source of the copy operation. This CCSID will be used for data conversion, if requested. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From code page (FROMCODPAG)** or **To code page (TOCODEPAGE)** parameters.

**\*OBJ** Use the data CCSID of the object to be copied.

**\*PCASCI**

Use the data CCSID of the object to be copied to compute a CCSID in the Microsoft Windows encoding scheme (x4105) (Microsoft, Windows, Windows NT, and the Windows 95 logo are registered trademarks of Microsoft Corporation). Use this as the CCSID from which the data will be converted when DTAFMT(\*TEXT) is specified. This option allows data from PCs to be converted properly if the data was created using Microsoft Windows.

**\*JOBCCSID**

The CCSID from the default job CCSID is used.

**1-65533**

Specify a CCSID value.

---

## To CCSID (TOCCSID)

Specifies the data coded character set identifier (CCSID) for the target of the copy operation. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From code page (FROMCODPAG)** or **To code page (TOCODEPAGE)** parameters.

**\*OBJ** Use the data CCSID of the object to be copied. If this CCSID cannot be used by the file system that the object is to be copied into, the copy operation will fail.

**\*CALC** Use the data CCSID of the object to be copied. If this CCSID cannot be used by the file system that the object is to be copied into, allow the file system to determine a different CCSID and continue with the copy.

**\*STDASCII** Compute a CCSID in the IBM PC Data encoding scheme (x2100), based on the source file's CCSID. Associate this CCSID for the target of the copy operation and, if DTAFMT(\*TEXT) is specified, also use this CCSID for the data conversion. If this CCSID cannot be used by the file system that the object is to be copied into, the copy operation will fail.

**\*PCASCII** Compute a CCSID in the Microsoft Windows encoding scheme (x4105), based on the source file's CCSID (Microsoft, Windows, Windows NT, and the Windows 95 logo are registered trademarks of Microsoft Corporation). Associate this CCSID with the target of the copy operation and, if DTAFMT(\*TEXT) is specified, also use this CCSID for the data conversion. This option allows the resulting data to be used by Microsoft Windows applications. If this CCSID cannot be used by the file system that the object is to be copied into, the copy operation will fail.

**\*JOBCCSID** The CCSID from the default job CCSID is used.

**1-65533** Specify a CCSID value.

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## Data Format (DTAFMT)

Specifies the format of the data in the file to be copied.

**\*BINARY** The file contains data in binary format (such as an executable file).

Do not convert data on the copy. However, if the object to be copied to has a different CCSID than the source object, all extended attributes will be converted into the CCSID of the new object before being set.

**\*TEXT** The file contains data in textual form. Convert data to the CCSID of the new object during the copy. The data is processed as text during the copy.

If a database member is to be copied to a stream file, any line-formatting characters (such as carriage return, tab, and end-of-file) are just converted from one CCSID to another.

If a stream file is to be copied to a database member, the stream file must contain end-of-line characters or the copy will fail. If the stream file does contain end-of-line characters, the following actions are performed during the copy to a database file.

- End-of-line characters are removed.
- Records are padded with blanks (for a source physical file member) or nulls (for a data physical file member).
- Tab characters are replaced by the appropriate number of blanks to the next tab position.

Top

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## Directory subtree (SUBTREE)

Specifies whether or not to copy a directory subtree if the object specified by **Object (OBJ)** parameter is a directory.

### \*NODIR

The object or objects specified by OBJ are copied. If an object is a directory, the copy will fail unless the target directory specified on the TODIR keyword is the directory in which the source object already exists. In this case, no action is performed and a successful completion message is issued.

### \*NONE

The objects specified by OBJ are copied. Directory objects are copied but their contents are not copied.

**\*ALL** The objects specified by OBJ are copied. Directory objects are copied as well as their contents and the contents of all subdirectories.

There are a few differences in how attributes are copied when SUBTREE(\*NONE) or SUBTREE(\*ALL) is specified instead of the default SUBTREE(\*NODIR). A directory subtree copy preserves as much of the original objects' attributes as possible.

- The PC read-only attribute flag is turned off in the copied object. If SUBTREE(\*NONE) or SUBTREE(\*ALL) is specified the flag will be copied.
- The Create date/time will be copied if SUBTREE(\*NONE) or SUBTREE(\*ALL) is specified (by default it is updated to the current time).

**Note:** The copy will fail if the target object is a subdirectory of the source object, or if the target object matches the source object.

**Note:** Pattern matching on the OBJ parameter only applies to the first level objects. If the first level object is a directory, the pattern matching does not apply to its contents or the contents of its subdirectories.

Once the command has begun processing a specific directory subtree, the objects which will be found and processed may be affected by operations that update the organization of objects within the specified directory tree. This includes, but is not limited to, the following:

- Adding, removing, or renaming object links
- Mounting or unmounting file systems
- Updating the effective root directory for the process calling the command
- Updating the contents of a symbolic link

In order to process the directory subtree, the system code may increase the process-scoped maximum number of file descriptors that can be opened during processing. This is done so that the command is not likely to fail due to a lack of descriptors. This process-scoped maximum value is not reset when the command completes.

Top

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## Replace object (REPLACE)

Specifies whether the target object is replaced if it already exists.

**\*NO** The target object is not replaced if it already exists.

**\*YES** If the target object already exists, it is replaced. If REPLACE(\*YES) is specified with a directory object, the attributes of the existing target directory are changed but the objects that the directory contains are not removed.

Top

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## Owner (OWNER)

Specifies the owner of the newly created object.

**\*NEW** The owner of the new object is the current user profile of the job. Even if the target object already exists and is owned by someone other than the current user profile of the job, the owner of the target object will be changed to be the current user profile of the job.

**\*KEEP**

The owner of the new object is the same as the owner of the original object to be copied.

Some file systems do not support changing the owner of certain object types. For example, the owner of \*MBR objects in the QSYS.LIB and independent ASP QSYS.LIB file systems will be determined by the owner of the \*FILE object that they are copied into.

Top

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## Authority (AUT)

Specifies the method used to assign authority information to copied objects.

**\*OBJ** The authority information for copied objects is based on the authority for the object specified on the **Object (OBJ)** parameter. Target objects are assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the objects being copied. If the target file system does not support setting all of these values, the unsupported values will be ignored.

**\*INDIR**

The authority information for copied objects is based on the authority for the directory where the objects are to be created. Target objects are assigned the same public authority, private authorities, primary group, primary group authority, and authorization list as the directory in which they are created. The auditing value assigned to copied objects is controlled by the directory's create object auditing value. If the target file system does not support the \*INDIR value, the command will fail with error message CPFA0AD. If the target object already exists, this value is ignored and no authority information will be copied.

**\*INDIROBJ**

The authority information for copied objects is initially based on the authority for the directory where the objects are to be created. Then, authority information from the object specified on the **OBJ** parameter will be copied to the target object. If the copy is successful, target objects will be assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the objects being copied, as well as any additional private authorities obtained from the directory. The resulting authority information will be similar to that produced by copying and pasting objects using the System i Navigator.

If the target file system does not support the \*INDIROBJ special value, the command will fail with error message CPFA0AD. If the target object already exists, no private authority information will be copied from the directory and the result will be the same as if \*OBJ had been specified.

Top

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## From code page (FROMCODPAG)

Specifies the method for obtaining the code page for source of the copy operation. This code page will be used for data conversion, if requested. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From CCSID (FROMCCSID)** or **To CCSID (TOCCSID)** parameters.

**Note:** This parameter is replaced by **From CCSID (FROMCCSID)** but the FROMCODPAG parameter can still be used. However, because this parameter may be removed in a later release, whenever possible use the FROMCCSID parameter.

**\*OBJ** Use the data code page of the object to be copied.

### **\*PCASCII**

Use the data code page of the object to be copied to compute a code page in the Microsoft Windows encoding scheme (x4105) (Microsoft, Windows, Windows NT, and the Windows 95 logo are registered trademarks of Microsoft Corporation). Use this as the code page from which the data will be converted when DTAFMT(\*TEXT) is specified. This option allows data from PCs to be converted properly if the data was created using Microsoft Windows.

1-32767

Specify a code page value.

Top

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## To code page (TOCODEPAGE)

Specifies the data code page for the target of the copy operation. This parameter is ignored if the object specified on the **Object (OBJ)** parameter is not a regular file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

This parameter can not be specified with the **From CCSID (FROMCCSID)** or **To CCSID (TOCCSID)** parameters.

**Note:** This parameter is replaced by **To CCSID (TOCCSID)** but the TOCODEPAGE parameter can still be used. However, because this parameter may be removed in a later release, whenever possible use the TOCCSID parameter.

**\*OBJ** Use the data code page of the object to be copied. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

### **\*CALC**

Use the data code page of the object to be copied. If this code page cannot be used by the file system that the object is to be copied into, allow the file system to determine a different code page and continue with the copy.

### **\*STDASCII**

Compute a code page in the IBM PC Data encoding scheme (x2100), based on the source file's code page. Associate this code page for the target of the copy operation and, if DTAFMT(\*TEXT)

is specified, also use this code page for the data conversion. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

#### **\*PCASCII**

Compute a code page in the Microsoft Windows encoding scheme (x4105), based on the source file's code page. Associate this code page with the target of the copy operation and, if DTAFMT(\*TEXT) is specified, also use this code page for the data conversion. This option allows the resulting data to be used by Microsoft Windows applications. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

#### **1-32767**

Specify a code page value. If this code page cannot be used by the file system that the object is to be copied into, the copy operation will fail.

Top

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## **Examples**

### **Example 1: Copying a File**

```
CPY OBJ('DECEMBER-1994-MONTHLY-PAYROLL-FILE') TOOBJ('PAY')
```

This command creates another file named PAY that is a duplicate of the file named DECEMBER-1994-MONTHLY-PAYROLL-FILE.

### **Example 2: Copying a File to Another Directory**

```
CPY OBJ('PAY') TODIR('MYDIR')
```

This command creates another file named PAY in directory MYDIR.

### **Example 3: Copying a Symbolic Link**

```
CPY OBJ('SL1') TOOBJ('YOURDIR/SL2') SYMLNK(*YES)
```

If SL1 is a symbolic link, the new object YOURDIR/SL2 is also a symbolic link. If SYMLNK(\*NO) was specified, the new object would be a copy of whatever SL1 pointed to, as long as it was a legal candidate for the copy function.

### **Example 4: Copying with Conversion**

```
CPY OBJ('/DATAFB')  
TOOBJ('/QSYS.LIB/APP1.LIB/DATA.FILE/DATAFB.MBR')  
TOCCSID(*CALC) DTAFMT(*TEXT)
```

This command copies stream file 'DATAFB' to the database file 'DATAFB.MBR'. By specifying TOCCSID(\*CALC), the file system being copied to (the QSYS.LIB file system in this case) will try to create the new member in the same coded character set identifier (CCSID) as '/DATAFB'. If this fails (in this case, if 'DATA.FILE' is not in the same CCSID as 'DATAFB'), the file system will be allowed to choose an appropriate CCSID and complete the copy. By specifying DTAFMT(\*TEXT), the data in 'DATAFB' is handled as text and is converted into the CCSID chosen for the new file 'DATAFB.MBR'.



### Example 5: Copying a Directory Subtree

```
CPY  OBJ('/QDLS/MYINFO') TODIR('/myfolder') SUBTREE(*ALL)
      OWNER(*KEEP) REPLACE(*YES)
```

The \*FLR object (QDLS file system folder) is created in the '/myfolder' directory in the "root" (/) file system with the path name '/myfolder/MYINFO'. Its contents are copied as well. Since OWNER(\*KEEP) is specified, the new objects created will belong to the same profiles as the old objects. With the REPLACE parameter set to \*YES if any of the target files already exist they will be overwritten.

### Example 6: Copying a File With Authority Copied from the Directory

```
CPY  OBJ('PAY') TODIR('MYDIR') AUT(*INDIR)
```

This command creates another file named PAY in directory MYDIR. All of the authority values, such as \*PUBLIC authority, authorization list, and primary group authority are copied from directory MYDIR and applied to the new file PAY.

Top

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## Error messages

### \*ESCAPE Messages

#### CPFA082

\*ADD authority required to owner's user profile.

#### CPFA083

Insufficient authority to replace object. Object is &1.

#### CPFA085

Home directory not found for user &1.

#### CPFA08E

More than one name matches pattern.

#### CPFA093

Name matching pattern not found.

#### CPFA09C

Not authorized to object. Object is &1.

#### CPFA09D

Error occurred in program &1.

#### CPFA0A1

An input or output error occurred.

#### CPFA0A3

Path name resolution causes looping.

#### CPFA0A6

Number of links exceeds maximum allowed for the file system.

#### CPFA0A7

Path name too long.

#### CPFA0A9

Object not found. Object is &1.



**CPFA0AA**

Error occurred while attempting to obtain space.

**CPFA0AB**

Operation failed for object. Object is &1.

**CPFA0AD**

Function not supported by file system.

**CPFA0B0**

Request not allowed to operate from one file system to another.

**CPFA0B1**

Requested operation not allowed. Access problem.

**CPFA0B2**

No objects satisfy request.

**CPFA0BB**

&1 objects copied. &2 objects failed.

**CPFA0C4**

Object not a file. Object is &1.

**CPFA0DA**

Object is a directory. Object is &1.

**CPFB41E**

Object type must match replaced object type.

Top



# Copy Audit Journal Entries (CPYAUDJRNE)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Copy Audit Journal Entries (CPYAUDJRNE) command allows you to copy security audit records from the security auditing journal (QAUDJRN) into one or more outfiles. Each audit entry type selected is copied to a separate output file.

To view the audit journal entries copied to the output file, you can use the Run Query (RUNQRY) command to display the records with column headings. The combination of CPYAUDJRNE followed by RUNQRY provides function that is similar to the Display Audit Journal Entries (DSPAUDJRNE) command but with the advantages that:

- All journal entry types are supported.
- All audit journal entry fields are copied and available.

For information on all of the possible audit entries, see Chapter 9 of the System i Security Reference, SC41-5302.

## Restrictions:

1. You must have \*AUDIT special authority to use this command.
2. You must have \*EXECUTE and \*ADD authority to the specified library to create a new output file in that library.
3. You must have \*OBJOPR \*OBJMGT \*ADD \*DLT authority to add or update a member in an existing output file.

Top

## Parameters

Keyword	Description	Choices	Notes
ENTTYP	Journal entry types	Single values: *ALL Other values (up to 74 repetitions): AD, AF, AP, AU, CA, CD, CO, CP, CQ, CU, CV, CY, DI, DO, DS, EV, GR, GS, IM, IP, IS, JD, JS, KF, LD, ML, NA, ND, NE, OM, OR, OW, O1, O2, O3, PA, PG, PO, PS, PW, RA, RJ, RO, RP, RQ, RU, RZ, SD, SE, SF, SG, SK, SM, SO, ST, SV, VA, VC, VE, VL, VN, VO, VP, VR, VS, VU, VV, XD, X0, X1, YC, YR, ZC, ZR	Optional, Positional 1
OUTFILE	Output file prefix	Qualified object name	Optional
	Qualifier 1: Output file prefix	Name, <u>QAUDIT</u>	
	Qualifier 2: Library	Name, <u>QTEMP</u> , *CURLIB	
OUTMBR	Output member options	Element list	Optional
	Element 1: Member to receive output	Name, <u>*FIRST</u>	
	Element 2: Replace or add records	<u>*REPLACE</u> , *ADD	
USRPRF	User profile	Name, <u>*ALL</u>	Optional

Keyword	Description	Choices	Notes
JRNRVCV	Journal receiver searched	Single values: <b>*CURRENT</b> , *CURCHAIN Other values: <i>Element list</i>	Optional
	Element 1: Starting journal receiver	<i>Qualified object name</i>	
	Qualifier 1: Starting journal receiver	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , *CURLIB	
	Element 2: Ending journal receiver	Single values: <b>*CURRENT</b> Other values: <i>Qualified object name</i>	
	Qualifier 1: Ending journal receiver	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , *CURLIB	
FROMTIME	Starting date and time	Single values: <b>*FIRST</b> Other values: <i>Element list</i>	Optional
	Element 1: Starting date	<i>Date</i>	
	Element 2: Starting time	<i>Time</i>	
TOTIME	Ending date and time	Single values: <b>*LAST</b> Other values: <i>Element list</i>	Optional
	Element 1: Ending date	<i>Date</i>	
	Element 2: Ending time	<i>Time</i>	

Top

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## Journal entry types (ENTTYP)

Specifies the journal entry types to be copied to an output file.

### Single value

**\*ALL** All audit record entry types are selected.

### Entry types (up to 74 repetitions)

- AF** Authorization failure.
- AD** Auditing changes.
- AP** Obtaining adopted authority.
- AU** Attribute changes.
- CA** Change authority.
- CD** Command string.
- CO** Create object.
- CP** Change user profile.
- CQ** Change of \*CRQD object.
- CU** Cluster management operations.
- CV** Connection verification.
- CY** Cryptographic configuration.
- DI** Directory services.
- DO** Delete object.

**DS** DST security password reset.  
**EV** Environment variable operations.  
**GR** Generic record.  
**GS** Socket descriptor was given to another job.  
**IM** Intrusion monitor.  
**IP** Interprocess communication.  
**IS** Internet security management.  
**JD** Change to a user parameter of a job description.  
**JS** Actions against jobs entries.  
**KF** Key ring file.  
**LD** Link, unlink, or lookup directory entry.  
**ML** Office services mail actions.  
**NA** Network attribute changed.  
**ND** Directory search filter violations.  
**NE** End point filter violations.  
**OM** Object move or rename.  
**OR** Object restored.  
**OW** Object ownership changed.  
**O1** (Optical access) single file or directory.  
**O2** (Optical access) dual file or directory.  
**O3** (Optical access) volume.  
**PA** Program changed to adopt authority.  
**PG** Change of an object's primary group.  
**PO** Printed output entries.  
**PS** Profile swap.  
**PW** Invalid password entries.  
**RA** Authority change during restore.  
**RJ** Restoring job description with user profile specified.  
**RO** Change of object owner during restore.  
**RP** Restoring adopted authority program.  
**RQ** Restoring a \*CRQD object.  
**RU** Restoring user profile authority.  
**RZ** Changing a primary group during restore.  
**SD** Changes to system distribution directory.  
**SE** Subsystem routing entry changed.  
**SF** Action on spooled files entries.  
**SG** Asynchronous signals.

<b>SK</b>	Secure sockets connections.
<b>SM</b>	System management changes.
<b>SO</b>	Server security user information actions.
<b>ST</b>	Use of service tools.
<b>SV</b>	System values changed entries.
<b>VA</b>	Changing an access control list.
<b>VC</b>	Starting or ending a connection.
<b>VF</b>	Closing server files.
<b>VL</b>	Account limit exceeded.
<b>VN</b>	Logging on and off the network.
<b>VO</b>	Validation list actions.
<b>VP</b>	Network password error.
<b>VR</b>	Network resource access.
<b>VS</b>	Starting or ending a server session.
<b>VU</b>	Changing a network profile.
<b>VV</b>	Changing service status.
<b>XD</b>	Directory services extension.
<b>X0</b>	Network Authentication.
<b>X1</b>	Identity token.
<b>YC</b>	DLO object changed entries.
<b>YR</b>	DLO object read entries.
<b>ZC</b>	Object changed entries.
<b>ZR</b>	Object read entries.

Top

---

## Output file prefix (OUTFILE)

Specifies the prefix for each database file to which the output of the command is directed. If an output file does not exist, this command creates the file in the specified library. If an output file is created by this command, the public authority for the file is set to \*EXCLUDE.

### Qualifier 1: Output file prefix

#### QAUDIT

Each output database file name will begin with 'QAUDIT' with the audit entry type appended to form the complete file name. For example, QAUDITZR would be the file name if ENTTYPE(ZR) was specified.

#### *name prefix*

Specify the first 1 to 8 characters of the name of each database file to which the audit entries will be copied. The audit entry type will be appended to the name prefix to form the complete database file name. For example, if FEB2004 is specified as the name prefix and ENTTYPE(AF) is specified, the database file name used is FEB2004AF.

## Qualifier 2: Library

### QTEMP

The QTEMP library for the job is used to locate the file.

### \*CURLIB

The current library for the thread is used to locate the file. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library to be searched.

Top

---

## Output member options (OUTMBR)

Specifies the name of the database file member that receives the output of the command.

### Element 1: Member to receive output

#### \*FIRST

The first member in the file receives the output. If OUTMBR(\*FIRST) is specified and the file has no members, the system creates a member with the name of the file generated from the **Output file prefix (OUTFILE)** and **Journal entry types (ENTTYP)** parameters. If the member already exists, you have the option to add new records to the end of the existing member or clear the member and then add the new records.

*name* Specify the name of the file member that receives the output. If it does not exist, the system creates it.

### Element 2: Replace or add records

#### \*REPLACE

The system clears the existing member and adds the new records.

**\*ADD** The system adds the new records to the end of the existing records.

Top

---

## User profile (USRPRF)

Specifies which user profile's journal entries are to be included in the output files.

**\*ALL** The output files will include entries for all user profiles.

*name* Specify the name of the user profile whose journal entries are to be copied to the output files.

Top

---

## Journal receiver searched (JRNRCV)

Specifies the starting (first) and ending (last) journal receivers whose journal entries are searched.

**Note:** If the maximum number of receivers (256) in the range is surpassed, an error occurs and no journal entries are copied.

### Single values

#### \*CURRENT

Journal entries in the currently attached journal receiver are searched.

## **\*CURCHAIN**

Journal entries in the currently attached journal receiver chain are searched. If there is a break in the chain, the receiver range is from the most recent break in the chain through the receiver that is attached when starting to convert journal entries.

### **Element 1: Starting journal receiver**

#### **Qualifier 1: Starting journal receiver**

*name* Specify the name of the first journal receiver from which entries are searched.

#### **Qualifier 2: Library**

**\*LIBL** The library list is used to locate the journal receiver.

#### **\*CURLIB**

The current library for the job is used to locate the journal receiver. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the journal receiver is located.

### **Element 2: Ending journal receiver**

#### **Single values**

#### **\*CURRENT**

The journal receiver that is currently attached is used as the ending journal receiver.

#### **Qualifier 1: Ending journal receiver**

*name* Specify the name of the last journal receiver from which entries are searched.

#### **Qualifier 2: Library**

**\*LIBL** The library list is used to locate the journal receiver.

#### **\*CURLIB**

The current library for the job is used to locate the journal receiver. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the journal receiver is located.

Top

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## **Starting date and time (FROMTIME)**

Specifies the date and time of the first journal entry to be searched.

#### **Single values**

#### **\*FIRST**

The search is to begin with the first record in the journal receiver.



### Element 1: Starting date

*date* Specify the starting date. The starting date and time of the first journal entry occurring at or after the specified starting date and time becomes the starting point for the range of entries to be searched.

### Element 2: Starting time

*time* Specify the starting time. The starting date and time of the first journal entry occurring at or after the specified starting date and time becomes the starting point for the range of entries to be searched.

The time can be specified with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

Top

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## Ending date and time (TOTIME)

Specifies the creation date and time of the last journal entry to be searched.

### Single values

#### \*LAST

The search is to end with the last record in the journal receiver.

### Element 1: Ending date

*date* Specify the ending date. The ending date and time of the first journal entry occurring at or before the specified ending time on the specified ending date becomes the ending point for the range of entries to be searched.

### Element 2: Ending time

*time* Specify the ending time. The ending date and time of the first journal entry occurring at or before the specified ending time on the specified ending date becomes the ending point for the range of entries to be searched.

The time can be specified with or without a time separator:

- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where hh = hours, mm = minutes, and ss = seconds.
- With a time separator, specify a string of 5 or 8 digits where the time separator specified for your job is used to separate the hours, minutes, and seconds. If you enter this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command will fail.

Top

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## Examples

### Example 1: Copy Authority Failure (AF) Records

```
CPYAUDJRNE  ENTTYP(AF)
```

This command copies all 'Authority Failure' audit records in the current journal receiver and puts them in member QAUDITAF in database file QTEMP/QAUDITAF.

The copied audit records can be displayed by a RUNQRY command, such as:

```
RUNQRY  QRY(*NONE) QRYFILE((QTEMP/QAUDITAF))
```

### Example 2: Copy Two Entry Types

```
CPYAUDJRNE  ENTTYP(CO DO)  OUTFILE(AUDITLIB/SYSTEM1)
```

This command copies all 'Create Object' and 'Delete Object' audit records in the current journal receiver and puts them in database files AUDITLIB/SYSTEM1CO and AUDITLIB/SYSTEM1DO respectively.

The copied audit records can be displayed by RUNQRY commands, such as:

```
RUNQRY  QRY(*NONE) QRYFILE((AUDITLIB/SYSTEM1CO))
        OUTTYPE(*DISPLAY)  OUTFORM(*RUNOPT)
```

```
RUNQRY  QRY(*NONE) QRYFILE((AUDITLIB/SYSTEM1DO))
        OUTTYPE(*DISPLAY)  OUTFORM(*RUNOPT)
```

### Example 3: Copy All Entry Types

```
CPYAUDJRNE  ENTTYP(*ALL)  OUTFILE(SAVEAUDIT/JUNE)
            OUTMBR(SMITHJ *REPLACE)  USRPRF(SMITHJ)
            JRNRCV(*CURCHAIN)
            FROMTIME('06/01/2004' '00:00:00')
            TOTIME('07/01/2004' '00:00:00')
```

This command copies all audit entries for user profile SMITHJ to a set of database files in library SAVEAUDIT that have names like JUNExx where the xx is the audit record entry type. The search for audit records will be performed for all journal receivers in the current chain of journal receivers. Only audit records that were written between midnight on June 01, 2004 and midnight on July 01, 2004 will be copied.

**Note:** This command may run for a very long time. The entire chain of journal receivers will be searched repeatedly for each audit record entry type.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF303

Cannot access data from QAUDJRN.

#### CPF304

User does not have required special authorities.

#### CPF30A

Record format name &2 does not match expected name &1.

#### CPF4AA4

No records copied for some ENTTYP values.

#### CPF9801

Object &2 in library &3 not found.

#### CPF9802

Not authorized to object &2 in &3.

#### CPF9810

Library &1 not found.

#### CPF9820

Not authorized to use library &1.

Top



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## Copy Configuration List (CPYCFGL)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy Configuration List (CPYCFGL) command creates a configuration list as a copy of an existing configuration list.

**Note:** The asynchronous network address list is the only type of configuration list that can be copied.

Top

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### Parameters

Keyword	Description	Choices	Notes
FROMCFGL	From configuration list	<i>Name</i>	Required, Positional 1
CFGL	Configuration list	<i>Name</i>	Required, Positional 2
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>*CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

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### From configuration list (FROMCFGL)

Specifies the configuration list from which to copy.

*from-configuration-list*

Specify the configuration list being copied from.

Top

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### Configuration list (CFGL)

Specifies the name of the configuration list.

*list-to-create*

Specify the configuration list being created.

This is a required parameter.

Top

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### Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*BLANK**

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

Top

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## Examples

```
CPYCFGL FROMCFGL(CONFIG01) CFGL(CONFIG02)
```

This command copies the configuration list named CONFIG01 to a new configuration list name CONFIG02.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2182

Not authorized to library &1.

#### CPF260D

Configuration list &1 already exists.

#### CPF260E

Configuration list &1 not created.

#### CPF260F

Configuration list &1 not found.



**CPF2612**

List type &1 not correct for copy.

**CPF2625**

Not able to allocate object &1.

**CPF2634**

Not authorized to object &1.

**CPF2663**

Configuration list &1 previously deleted.

Top



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## Copy Document (CPYDOC)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy Document (CPYDOC) command allows you to copy a document from one folder into another folder or to copy a document that is not in a folder into a folder.

### Restrictions:

- If you are replacing a document in a folder, you must have change (\*CHANGE) authority to that document.
- If you are creating a new document in a folder, you must have \*CHANGE authority to that folder. The new document will have the same authorization as the document from which it is copied.
- You must have use (\*USE) authority to the document being copied.

Top

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## Parameters

Keyword	Description	Choices	Notes
FROMDOC	From document	Character value, *SYSOBJNAM	Required, Positional 1
FROMFLR	From folder	Character value, *NONE	Optional, Positional 2
TODOC	To document	Character value, *FROMDOC	Optional, Positional 3
TOFLR	To folder	Character value, *FROMFLR	Optional, Positional 4
REPLACE	Replace document	*NO, *YES	Optional
SYSOBJNAM	System object name	Name	Optional

Top

---

## From document (FROMDOC)

Specifies the name of the document being copied.

This is a required parameter.

*name* Specify the name of the document that is copied.

If FROMDOC(name) is specified, a folder name must be specified on FROMFLR.

### \*SYSOBJNAM

A system object name is used to identify the document that is copied.

If FROMDOC(\*SYSOBJNAM) is specified, then SYSOBJNAM(name), TODOC(name) and TOFLR(name) must be specified.

Top

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## From folder (FROMFLR)

Specifies the name of the folder that contains the document that is copied.

### \*NONE

A folder name is not specified for the document. FROMFLR(\*NONE) must be specified if the document is not in a folder. FROMFLR(\*NONE) cannot be specified if FROMDOC(name) is specified.

*name* Specify the name of the folder that contains the document that is copied.

Top

---

## To document (TODOC)

Specifies the output document name.

### \*FROMDOC

The output document name is the same as that specified on the **From document (FROMDOC)** parameter.

If TODOC(\*FROMDOC) is specified, then TOFLR(\*FROMFLR) cannot be specified.

*name* Specify the output document name.

If FROMDOC(\*SYSOBJNAME) is specified, then TODOC(name) must be specified.

Top

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## To folder (TOFLR)

Specifies the folder into which the output document is copied.

### \*FROMFLR

The folder name is the same as that specified on the **From folder (FROMFLR)** parameter; the document is copied into the same folder.

*name* Specify the name of the folder into which the document is copied.

If FROMDOC(\*SYSOBJNAME) is specified, then TOFLR(name) must be specified.

Top

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## Replace document (REPLACE)

Specifies whether the document specified on TODOC can be replaced.

### \*NO

The output document is a new document created within the folder specified on the **To folder (TOFLR)** parameter. If a document with the same name already exists in the folder, no copy is made.

### \*YES

The output document replaces an existing document with the same name in the folder specified on the TOFLR parameter. If no document with the same name exists in the folder, a new document is created.

Top

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## System object name (SYSOBJNAM)

Specifies the system object name. This parameter is valid only when DLO(\*SYSOBJNAM) is specified.

*name* Specify the system object name of the document that is copied. A full ten characters must be specified.

Top

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## Examples

### Example 1: Copying a Document

```
CPYDOC FROMDOC(MYDOC) FROMFLR(MYFLR)
        TODOC(MYDOC2) TOFLR(MYFLR2)
        REPLACE(*YES)
```

This command copies document MYDOC located in folder MYFLR to document MYDOC2 located in folder MYFLR2. If document MYDOC2 already exists in MYFLR2, the system replaces it with a copy of document MYDOC; otherwise, MYDOC2 is created in MYFLR2 as a copy of MYDOC in MYFLR.

### Example 2: Copying Document and Keeping Source Document Name

```
CPYDOC FROMDOC(*SYSOBJNAM) SYSOBJNAM(AMBT133080)
        TODOC(MYDOC4) TOFLR(MYFLR)
```

This command copies a document, identified by the system object name, to document MYDOC4 located in folder MYFLR. The document name will be the same as the name of the source document.

### Example 3: Copying Document to Document in Same Folder

```
CPYDOC FROMDOC(XYZ) FROMFLR('MYFLR/TEST') TODOC(NEW)
```

This command copies document XYZ located in folder MYFLR/TEST to document NEW in the same folder. If document NEW already exists, an error message is sent.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF8A12

Document &2 in folder &1 not copied.

Top



# Copy File (CPYF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Conditional

Parameters  
 Examples  
 Error messages

The Copy File (CPYF) command copies all or part of a file from the database or from an external device to the database or to an external device. It can:

- Copy data and source files between database files. Records can be copied from physical or logical files. However, records can be copied only to physical files, not to logical files.
- Copy data and source files from external devices, such as diskette and tape, to the database.
- Copy data and source files from the database to external devices.
- Copy data and source files from external devices to other external devices.
- Copy data and source files from inline data files to the database or to external devices.

## Restrictions:

- During the time a CPYF request is run, the file specified for the **To file (TOFILE)** parameter may be locked (similar to an \*EXCL lock with no timeout) so that no access is possible.
- When the CRTFILE(\*YES) parameter is specified and the file copied (FROMFILE parameter) has an associated trigger, the file created (TOFILE parameter) does not have the associated trigger. The Add Physical File Trigger (ADDPFTRG) command must be used to add a trigger to the file.
- This command is conditionally threadsafe. In multithreaded jobs, this command is not threadsafe when copying from or to multiple database file members, device files (except SPOOL(\*YES) print files), distributed files, or DDM files of type SNA. This command fails for distributed files that use relational databases of type \*SNA and DDM files of type \*SNA. It is threadsafe only when copying from and to single database file members (local or DDM of type \*IP) or SPOOL(\*YES) print files.

Top

## Parameters

Keyword	Description	Choices	Notes
FROMFILE	From file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: From file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
TOFILE	To file	Single values: *PRINT Other values: <i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: To file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
FROMMBR	From member	<i>Generic name, name, *FIRST, *ALL</i>	Optional, Positional 3
TOMBR	To member or label	<i>Name, *FIRST, *FROMMBR, *ALL</i>	Optional, Positional 4
MBROPT	Replace or add records	<i>*NONE, *ADD, *REPLACE, *UPDADD</i>	Optional, Positional 5
CRTFILE	Create file	<i>*NO, *YES</i>	Optional, Positional 6
OUTFMT	Print format	<i>*CHAR, *HEX</i>	Optional



Keyword	Description	Choices	Notes
PRINT	Which records to print	Single values: *NONE Other values (up to 3 repetitions): *EXCLD, *COPIED, *ERROR	Optional
RCDFMT	Record format of logical file	Name, *ONLY, *ALL	Optional
FROMRCD	Copy from record number	Unsigned integer, *START	Optional
TORCD	Copy to record number	Unsigned integer, *END	Optional
FROMKEY	Copy from record key	Single values: *NONE Other values: Element list	Optional
	Element 1: Number of key fields	Integer, *BLDKEY	
	Element 2: Key value	Values (up to 50 repetitions): Character value	
TOKEY	Copy to record key	Single values: *NONE Other values: Element list	Optional
	Element 1: Number of key fields	Integer, *BLDKEY	
	Element 2: Key value	Values (up to 50 repetitions): Character value	
NBRRCDS	Number of records to copy	Unsigned integer, *END	Optional
INCCHAR	Include records by char test	Single values: *NONE Other values: Element list	Optional
	Element 1: Field	Name, *RCD, *FLD	
	Element 2: Character position	Integer	
	Element 3: Relational operator	*EQ, *GT, *LT, *NE, *GE, *NL, *LE, *NG, *CT	
	Element 4: Value	Character value	
INCREL	Include records by field test	Single values: *NONE Other values (up to 50 repetitions): Element list	Optional
	Element 1: Relationship	*IF, *AND, *OR	
	Element 2: Field	Name	
	Element 3: Relational operator	*EQ, *GT, *LT, *NE, *GE, *NL, *LE, *NG	
	Element 4: Value	Character value, *NULL	
FMTOPT	Record format field mapping	Single values: *NONE, *NOCHK, *CVTSRC Other values (up to 2 repetitions): *MAP, *DROP, *CVTFLOAT, *NULLFLAGS	Optional
SRCOPT	Source update options	Single values: *SAME Other values (up to 2 repetitions): *SEQNBR, *DATE	Optional
SRCSEQ	Source sequence numbering	Element list	Optional
	Element 1: Starting sequence number	0.01-9999.99, <u>1.00</u>	
	Element 2: Increment number	0.01-9999.99, <u>1.00</u>	
ERRLVL	Errors allowed	Unsigned integer, <u>0</u> , *NOMAX	Optional
COMPRESS	Compress out deleted records	*YES, *NO	Optional

Top

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## From file (FROMFILE)

Specifies the database file or device file that contains the records to be copied. A database file can be a physical file or a logical file. A device file can be a diskette file or a tape file.

This is a required parameter.

### Qualifier 1: From file

*name* Specify the name of the database or device file that contains the records to be copied.

### Qualifier 2: Library

**\*LIBL** All libraries in the user and system portions of the job's library list are searched until the first match is found.

**\*CURLIB**

The current library for the job is used to locate the database file or device file. If no library is specified as the current library for the job, the QGPL library is used.

*name* Specify the name of the library to be searched.

Top

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## To file (TOFILE)

Specifies the file that receives the copied records.

This is a required parameter.

**Note:** A device file can be a diskette file, tape file, or printer file. However: (1) If the from-file and to-file are both diskette files, the to-file must be spooled (SPOOL(\*YES) must be specified on the Create Diskette File (CRTDKTF), Change Diskette File (CHGDKTF), or Override Diskette File (OVRDKTF) command). (2) An externally described printer file cannot be specified.

If the device file is a print file or if TOFILE(\*PRINT) is specified, shift-out and shift-in (SO-SI) characters are not added around the graphic data. OUTFMT(\*HEX) can be specified to print the data in hexadecimal format.

### Single values

**\*PRINT**

The data is copied to a system printer device file (QSYSPRT) and formatted according to the value specified for the **Print format (OUTFMT)** parameter.

### Qualifier 1: To file

*name* Specify the name of the physical file or device file that receives the copied records.

### Qualifier 2: Library

**\*LIBL** All libraries in the user and system portions of the job's library list are searched until the first match is found.

**\*CURLIB**

The current library for the job is used to locate the physical file or device file. If no library is specified as the current library, QGPL is used.

*name* Specify the name of the library to be searched.

---

## From member (FROMMBR)

Specifies the database file member, or the diskette file label or tape file label, in the from-file that is to be copied.

### \*FIRST

The first member in the database from-file is copied. For a diskette, a label identifier must be specified in the device file or on an Override with Diskette File (OVRDKTF) command. If the from-file is an inline file, \*FIRST is the only value that is allowed.

**\*ALL** All members of a database from-file, or all file label identifiers for a diskette from-file are copied. \*ALL is not valid for a tape file or inline file.

*name* Specify the name of the database from-file member, or the diskette from-file label or tape from-file label of the file member being copied.

### *generic-name*

Specify a generic name to copy all database members that have names with the same prefix, or all diskette data files with the same prefix label identifier. Refer to the description of FROMMBR(\*ALL) for more information about copying many from-file members or label identifiers.

Top

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## To member or label (TOMBR)

Specifies the database file member name, or the diskette or tape file label identifier of the to-file member that receives the copied data records. If \*PRINT is specified for the **To file (TOFILE)** parameter, either \*FIRST or \*FROMMBR must be specified on this parameter.

### \*FIRST

The first member of the specified file is used.

### **\*FROMMBR**

Corresponding from-file and to-file member names or device label identifiers are used.

**\*ALL** The data is copied to the correct to-member of the partitioned table. \*ALL is only valid for partitioned tables.

*name* Specify the name of the physical to-file member, or the label identifier of the diskette or tape device to-file that receives the copied records.

Top

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## Replace or add records (MBROPT)

Specifies whether the new records replace or are added to the existing records.

**Note:** If the records are being copied to an existing physical file, this parameter must specify \*ADD, \*UPDADD, or \*REPLACE. If the to-file does not exist but CRTFILE(\*YES) is specified, the copy operation assumes MBROPT(\*ADD) for all records copied to the file after it is created, regardless of the value specified on this parameter.

If \*ADD or \*UPDADD is specified and the from-file is empty (contains no records), the copy operation completes normally. If \*REPLACE is specified and the from-file is empty, the copy operation ends abnormally.

**\*NONE**

This parameter does not apply to this copy operation. When the to-file is an existing physical file, \*NONE is not allowed.

**\*ADD** The system adds the new records to the end of the existing records.

**\*REPLACE**

The system clears the existing member and adds the new records.

**\*UPDADD**

The system updates the duplicate key records and adds the new records to the end of the existing records. Additional information is available in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

Top

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## Create file (CRTFILE)

Specifies, when this command is used to copy from a physical file or a logical file, whether a physical file is created to receive the data if the specified to-file does not exist. If the to-file is a Distributed Data Management (DDM) file that identifies a remote file that does not exist, the to-file file is created on the target system.

**\*NO** The to-file must exist when this command is started. A physical file is not created to receive the data.

**\*YES** If the to-file does not exist, a physical file is created with the name specified on the **To file (TOFILE)** parameter. If the from-file is an SQL table, view, or index, that contains a user defined type, datalink, or LOB field type, the physical file created will be an SQL table. In all other instances the to-file created will be a database physical file that is not an SQL table. In addition to the normal copy operation validity checks, the following special conditions must all be true for the copy operation to create a to-file:

- The from-file must be either a physical or logical file.
- A library name must be specified on the **To file (TOFILE)** parameter. The default value, \*LIBL, is not allowed.
- There cannot be an override to a different file or library name. The values specified on this command for the to-file must be used.
- The user running this command must be authorized to add the file to the to-file library, and must also have operational authority to the Create Physical File (CRTPF) command.
- A single record format must be used in the from-file. If the from-file is a logical file with multiple formats, the **Record format of logical file (RCDFMT)** parameter must specify a record format name.

Top

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## Print format (OUTFMT)

Specifies whether records are printed in character format, or in both character and hexadecimal format. This parameter is used only when \*PRINT is specified for the **To file (TOFILE)** parameter or \*EXCLD or \*COPIED is specified for the **Which records to print (PRINT)** parameter.

**\*CHAR**

Records are printed in character format.

**\*HEX** Records are printed in both character and hexadecimal format.

Top

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## Which records to print (PRINT)

Specifies whether copied records, excluded records, or both, are printed.

### Single values

#### \*NONE

No copied, excluded, or error records are printed.

### Other values (up to 3 repetitions)

#### \*EXCLD

Records excluded from the copy operation by the **Include records by char test (INCCCHAR)** parameter and the **Include records by field test (INCREL)** parameter are printed.

#### \*COPIED

Copied records are printed.

#### \*ERROR

The number of recoverable output error records specified for the **Errors allowed (ERRLVL)** parameter are printed.

Top

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## Record format of logical file (RCDFMT)

Specifies, for copying from a database file only, the name of the record format that is copied. If the from-file is not a logical or physical file, **\*ONLY** is the only value allowed. A record format name is optional if the logical file has only a single record format, but either a format name or **\*ALL** must be specified if the from-file has more than one record format.

#### \*ONLY

The only record format in the from-file is copied. When the from-file is a logical file, this value is allowed only if the file has a single record format.

**\*ALL** All record formats in the logical from-file are used.

*name* Specify the name of the record format that is copied when the from-file is a logical or physical file.

Top

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## Copy from record number (FROMRCD)

Specifies the record number from which to start the copy. A record number is not valid if a value other than **\*NONE** is specified for the **Copy from record key (FROMKEY)** parameter or for the **Copy to record key (TOKEY)** parameter, and it is not allowed if the from-file is a keyed logical file.

#### \*FIRST

The copy operation begins with the first record in the file.

#### **1-4294967288**

Specify the record number of the first record to be copied from the from-file.

Top

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## Copy to record number (TORCD)

Specifies the record number of the last record in the from-file (or each from-file member) that is copied. A record number is not valid if a value other than \*NONE is specified for the **Copy from record key (FROMKEY)** parameter or the **Copy to record key (TOKEY)** parameter, if a value other than \*END is specified for the **Number of records to copy (NBRRCDS)** parameter, or if the from-file is a keyed logical file.

**\*END** Records are copied until the end-of-file condition is indicated.

**1-4294967288**

Specify the record number of the last record to be copied from the from-file.

Top

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## Copy from record key (FROMKEY)

Specifies, when a file with key fields is copied, the key value of the first record in the from-file (or each from-file member) is copied. This parameter is valid only for a from-file that is a keyed database file, and is not allowed if record number values are specified for the **Copy from record number (FROMRCD)** parameter or for the **Copy to record number (TORCD)** parameter.

### Single values

**\*NONE**

The first record copied is not selected by key.

### Element 1: Number of key fields

**\*BLDKEY**

A list of values (up to 256 characters each) is provided for key fields (as opposed to a single character string value for all fields in the key). \*BLDKEY is not valid if any value (up to 50) in the list corresponds to a null-capable key field.

The list of values specified for element 2 is applied (in order) to corresponding fields in the from-file key. For character fields, the character strings are converted from the current job CCSID to the from-file field CCSID. For date, time, or timestamp fields, corresponding input values are converted to the format and separator form of the from-file field. For variable-length fields, only enter the character data, not the 2-byte length portion. When a DBCS graphic field is specified, the input string (DBCS data) must be enclosed between shiftout (SO) and shiftin (SI) characters. The SO-SI characters are removed from the input string and the remaining DBCS data is converted from the associated DBCS CCSID of the current job to the DBCS CCSID of the DBCS graphic field.

*integer-number*

Specify the number of key fields used to locate the first record to be copied.

### Element 2: Key value

*character-value*

Specify a character string that gives the actual key value for the number of key fields specified for the first element. The key string value must be specified in quotation marks if it contains blanks or special characters, and it may be specified in hexadecimal format, which is useful if the key contains packed decimal or binary numeric fields, or is a variable-length character field. CCSID conversions are not performed on character fields when a single string is specified.

Top

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## Copy to record key (TOKEY)

Specifies, when a file with key fields is copied, the key value of the last record in the from-file (or each from-file member) that is copied. This parameter is valid only for a from-file that is a keyed database file, and it is not allowed if record number values are specified for the **Copy from record number (FROMRCD)** parameter or for the **Copy to record number (TORCD)** parameter, or if a number of records is specified for the **Number of records to copy (NBRRCDS)** parameter.

### Single values

#### \*NONE

The last record copied is not selected by key.

### Element 1: Number of key fields

#### **\*BLDKEY**

A list of values (up to 256 characters each) is provided for key fields (as opposed to a single character string value for all fields in the key). \*BLDKEY is not valid if any value (up to 50) in the list corresponds to a null-capable key field.

The list of values specified for element 2 is applied (in order) to corresponding fields in the from-file key. For character fields, the character strings are converted from the current job CCSID to the from-file field CCSID. For date, time, or timestamp fields, corresponding input values are converted to the format and separator form of the from-file field. For variable-length fields, only enter the character data, not the 2-byte length portion. When a DBCS graphic field is specified, the input string (DBCS data) must be enclosed between shiftout (SO) and shiftin (SI) characters. The SO-SI characters are removed from the input string and the remaining DBCS data is converted from the associated DBCS CCSID of the current job to the DBCS CCSID of the DBCS graphic field.

#### *integer-number*

Specify the number of key fields used to locate the last record to be copied.

### Element 2: Key value

#### *character-value*

Specify a character string that gives the actual key value for the number of key fields specified for the first element. The key string value must be specified in quotation marks if it contains blanks or special characters, and it may be specified in hexadecimal format, which is useful if the key contains packed decimal or binary numeric fields, or is a variable-length character field. CCSID conversions are not performed on character fields when a single string is specified.

Top

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## Number of records to copy (NBRRCDS)

Specifies the number of records copied to the to-file.

\*END Records are copied until the end-of-file condition is indicated for the from-file, unless either the TOKEY or TORCD parameter has been specified.

#### **1-4294967288**

Specify the number of records to be copied to the to-file.

Top



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## Include records by char test (INCCHAR)

Specifies that records are copied based on a comparison of a character string value and the data in some position of either a field in the record or the entire record.

### Single values

#### \*NONE

No comparison should be used to select which records are copied.

### Comparison values

To specify the comparison that determines which records are to be copied, four values must be entered. Either \*RCD or the name of a field must be entered, followed by the three values that control the comparison: starting position, operator, and character string value. All records that satisfy the relationship are copied to the to-file.

#### Element 1: Field

**\*RCD** The character string value is compared with the data at the specified starting position in each record in the from-file.

**\*FLD** This value is the same as the \*RCD value.

*name* Specify the name of a field in the record format that is used to make the comparison. The field must be defined as a character field in the data description specification (DDS) for the from-file.

#### Element 2: Character position

##### *starting-position*

Specify the starting position where the comparison starts in the field or record. For variable-length fields, the position is the position in the data portion of the variable-length field. For DBCS graphic fields, the position is the DBCS character position. For any operator except \*CT, the comparison is done for the length of the specified character string value (up to a maximum of 256 characters). For the \*CT operator, the field or record is scanned from the specified starting position to the end of the field or record to determine whether it contains the specified character string.

#### Element 3: Relational operator

Specify the operator that indicates the relationship that must exist between the record or field and the specified character string.

**\*EQ** Equal

**\*GT** Greater than

**\*LT** Less than

**\*NE** Not equal

**\*GE** Greater than or equal

**\*NL** Not less than

**\*LE** Less than or equal

**\*NG** Not greater than

**\*CT** Contains

#### Element 4: Value

### *character-value*

Specify the character string (up to 256 characters long) to be compared with the specified field or record. The character string value must be specified in apostrophes if it contains blanks or special characters, and it may be specified in hexadecimal format. If a field name is specified, the character string value is converted from the current job CCSID to the field CCSID prior to running the comparison. If the field name of a variable-length field is specified, only the character data to be compared should be specified, not the 2-byte length portion. If a field name is specified, **any** comparison to a field value that is the null value will test false. For DBCS graphics, specify the input (DBCS data) string within shiftout and shiftin (SO-SI) characters. The SO-SI characters are removed from the input string and the remaining DBCS data is converted from the associated DBCS CCSID of the current job to the DBCS CCSID of the DBCS graphic field.

Top

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## **Include records by field test (INCREL)**

Specifies that records are copied based on whether certain fields in the record contain data that satisfies specified relationships. This parameter is not valid for a copy from all record formats of a logical file with more than one format.

### **Single values**

#### **\*NONE**

No field value relationships are used to select which records are copied.

### **Relationship values**

To specify the conditions under which records are copied, a set of values is specified for each condition. Up to 50 sets of relationship values can be specified. Each set must contain exactly four values:

1. A logical operator
2. The name of the field to be compared
3. A relational operator
4. The comparison value

### **Element 1: Relationship**

**\*IF** This must be specified as the first value in a set of comparisons.

**\*AND** The field value relational groups on both sides of the **\*AND** value must all be satisfied before a record is copied.

**\*OR** If the field value relational group on either side of the value **\*OR** is satisfied, the record is copied.

### **Element 2: Field**

**name** Specify the name of the field being compared. The field must exist in the from-file record format, and may be defined as either character or numeric in the data description specification (DDS) for the file.

### **Element 3: Relational operator**

Specify the operator that indicates the relationship which must exist between the field in the record and the specified field value.

**\*EQ** Equal

**\*GT** Greater than

- \*LT Less than
- \*NE Not equal
- \*GE Greater than or equal
- \*NL Not less than
- \*LE Less than or equal
- \*NG Not greater than

#### Element 4: Value

##### \*NULL

\*NULL can be used as the value to test whether the field value in a record is or is not null. Only the operators \*EQ and \*NE are allowed if \*NULL is specified. A "\*EQ \*NULL" relation is true only if a field value in a record is null. A "\*NE \*NULL" relationship is true only if a field value in a record is not null.

##### *character-value*

Specify the value (up to 256 characters) to be compared with the contents of the specified field. The specified value cannot be another field name. The field value must be specified in apostrophes if it contains blanks or special characters, and it may be specified in hexadecimal format. Any non-\*NULL comparison to a field value in a record that is null will test false, regardless of the operator used. For variable-length fields, specify only the data portion of the value, not the 2-byte length portion. For character fields, the data is converted from the current job CCSID to the field CCSID prior to comparing the data to the field data. When a DBCS graphic field is specified, the input string (DBCS data) must be enclosed within shiftout and shiftin (SO-SI) characters. The SO-SI characters are removed from the input string and the remaining DBCS data is converted from the associated DBCS CCSID of the current job to the DBCS CCSID of the DBCS graphic field.

Top

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## Record format field mapping (FMTOPT)

Specifies, when a physical or logical from-file is copied to a physical to-file, what field-level record format processing (if any) is done. If the from-file and to-file are database files with different file types (one is \*SRC and the other is \*DATA), \*CVTSRC must be specified.

### Single values

#### \*NONE

No field mapping or dropping is done during the copy operation. This value is valid only if the from-file and to-file are not both database files, or if they are both database files and have the same record format. The record formats are the same only if every field exists in both the from-file and to-file formats, and if each has the same starting position and attributes in both records. Attributes include whether or not a field is null-capable, and the date/time format and separator (if the field is a date/time field). Null values are copied if \*NONE is valid.

#### \*NOCHK

If the record formats of the database files are different, the copy operation continues despite the differences. Record data is copied directly (left to right) from one file to the other. \*NOCHK is required when copying all record formats from a logical file with more than one format to a physical file that is of the same type (source or data) as the from-file. If this value is specified, null values are ignored and no conversion of date/time data occurs.

#### \*CVTSRC

This value is used to copy between database files, from a source file to a data file, or from a data

file to a source file. It is valid only when the from-file and to-file are different types (source and data). The file type conversion is done as follows:

- If the to-file is a data file, the from-file sequence number and date fields are dropped, and the source data part of each from-file record is copied to the to-file.
- If the to-file is a source file, sequence number and date fields are added, and the from-file record data is copied to the source data part of each to-file record. Null values are ignored and no conversion of date/time data is performed.
- When either the from-file or the to-file is not a database file, FMTOPT(\*CVTSRC) is not required for copying from a source file to a data file or from a data file to a source file. Sequence number and date fields are appended or dropped automatically, depending on the file types. If the to-file is a source physical file, the SRCOPT and SRCSEQ parameters can be used to control the sequence numbers created for records copied to the to-file.

### Other values (up to 2 repetitions)

**\*MAP** Fields with the same name in the from-file and to-file record formats are copied, and any fields in the to-file that do not exist in the from-file format are set to the default value specified on the DFT keyword for the data description specification (DDS) of the to-file or zero for numeric fields, blanks for character fields, current date/time for date/time fields, or null value for null-capable fields.

If \*MAP is specified, \*DROP can also be specified. Mapped fields may have different starting positions in the from-file and to-file record formats.

If \*MAP is specified and a valid conversion is defined between the from-file field CCSID and the to-file field CCSID, the character data is converted to the to-file field CCSID. However, if either the from-file field CCSID or the to-file field CCSID is 65535, the character data is not converted.

\*MAP allows for the conversion of date/time data and the copying of null values.

### \*DROP

This value must be specified for field-level mapping if any of the field names in the from-file record format do not exist in the to-file format. If \*DROP is specified, \*MAP can also be specified. When \*DROP is specified, all the field names that exist in both record formats must have the same attributes and relative positions in the from-file and to-file record formats, or \*MAP must also be specified. Null values are copied.

### \*CVTFLOAT

Specifies CPYF to process each floating point field identified by the external description of the output database physical file and convert it from System/390 floating point format to the IEEE format used by i5/OS.

### \*NULLFLAGS

Specifies CPYF to take the byte following each field identified as being null-capable by the external description of the output file, and use it as a flag to indicate if the corresponding input field is null. If the byte is blank ('40'X) or contains '00'X, the data is considered to be not null. Any other value for the flag causes the corresponding input field data to be ignored and the output value set to null.

**Note:** If \*CVTFLOAT or \*NULLFLAGS is specified and the input file is externally described, the input file external description will not be used in doing the mapping of the copied data. If \*CVTFLOAT or \*NULLFLAGS is specified, any other value is ignored (unless both are specified). TOFILE must be an externally-described physical data file. The following parameter values cannot be specified when \*CVTFLOAT or \*NULLFLAGS is specified:

- RCDFMT(\*ALL) when the from-file is a multiple format logical file
- A value other than default for CRTFILE (unless the TOFILE already exists causing \*YES to be ignored), FROMKEY, TOKEY, INCCCHAR, INCREL, SRCOPT and SRCSEQ.

\*\*\* ATTENTION \*\*\*

\*CVTFLOAT and \*NULLFLAGS must only be used for conversion of data to i5/OS format, and they must be used correctly to avoid possible data corruption.

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Top

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## Source update options (SRCOPT)

Specifies, only for copying to a source physical file, whether new sequence numbers are inserted in the sequence number fields and whether the date fields are set to zero. Both \*SEQNBR and \*DATE can be specified.

### Single values

#### \*SAME

New source sequence numbers are not inserted and the source date fields are not set to zero in the records copied to the to-file. \*SAME is required if the to-file is not a source physical file.

### Other values (up to 2 repetitions)

#### \*SEQNBR

New source sequence numbers are inserted in the records copied to the to-file. The new sequence numbers are controlled by the **Source sequence numbering (SRCSEQ)** parameter value.

#### \*DATE

The source date field is set to zero in the records copied to the to-file.

Top

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## Source sequence numbering (SRCSEQ)

Specifies, only when \*SEQNBR is specified for the **Source update options (SRCOPT)** parameter, the sequence number that is given to the first record copied to the to-file, and what value is added to renumber all other records that are copied.

### Element 1: Starting sequence number

1.00 The first source record copied to the to-file has a sequence number of 0001.00.

*0.01-9999.99*

Specify the sequence number of the first source record copied to the to-file.

### Element 2: Increment number

1.00 The copied source records are renumbered in the to-file with whole number additions of 1.

*0.01-9999.99*

Specify the value added for renumbering all source records copied after the first record.

Top

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## Errors allowed (ERRLVL)

Specifies the maximum number of recoverable read or write errors for the file that are tolerated during the copy operation for a single database from-file member or tape from-file label identifier.

0 If any recoverable error occurs, the copy operation ends at the file member in which the error occurs.

**\*NOMAX**

No maximum number of errors is specified, and all recoverable errors are tolerated.

*integer-number*

Specify the maximum number of recoverable errors that is allowed in each from-file member or label that is copied.

Top

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## Compress out deleted records (COMPRESS)

Specifies whether the to-file contains a compressed form of the from-file. Compression occurs when deleted records in the from-file are not copied to the to-file. \*NO is used to copy all records when the from-file and to-file are both physical files. If from-file is delete-capable and the to-file is not delete-capable, then \*YES must be specified.

\*YES The records copied to the to-file are compressed. Deleted records that exist in the from-file are not copied to the to-file.

\*NO Both the deleted and nondeleted records are copied to the to-file.

Top

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## Examples

### Example 1: Physical File to Physical File

```
CPYF FROMFILE(PERSONNEL/PAYROLL) TOFILE(TESTPAY/PAYROLL)
     MBROPT(*ADD) CRTFILE(*YES) ERRRLVL(10)
```

This command copies all of the records in the physical file named PAYROLL in the PERSONNEL library to the file PAYROLL in the TESTPAY library. If the from-file contains more than one member, only the first member is copied. If TESTPAY/PAYROLL does not exist, it is created before the records are copied and a member with the same name as the from-file is added to TESTPAY/PAYROLL to receive the copied records.

Because MBROPT(\*ADD) is specified, the copied records are added to any existing records in the to-file member. Because RCDFMT(\*NONE) is assumed, the to-file TESTPAY/PAYROLL must have the same record format as the from-file. If the to-file (TESTPAY/PAYROLL) is created by the copy operation, it will have the same record format and access path as the from-file (PERSONNEL/PAYROLL). If more than ten recoverable errors occur during the copy operation, the operation ends.

If FROMMMBR(\*ALL) and TOMBR(\*FROMMMBR) had also been specified, all of the members in the from-file would be copied to corresponding members (having the same names) in the to-file. For each from-member that has no corresponding to-member, a member is added to the to-file and all the records in the from-member are copied to the new member. For each to-member that already exists, only new records are added to the member. No updates are made to existing records on any type of copy operation. If the to-file contains members for which there are no corresponding members in the from-file, the to-file contains more members than the from-file after the copy operation.

If more than ten recoverable errors occur within a member being copied, the copy operation ends at that point, and remaining members are not copied. ERRLVL(\*NOMAX) can be specified to tolerate all recoverable errors, so the copy operation does not end no matter how many recoverable errors occur in a particular file member.

### Example 2: Physical File to Physical File

```
CPYF FROMFILE(PERSONNEL/EMP1) TOFILE(PERSONNEL/VACLEFT)
      FROMMBR(VAC) MBROPT(*REPLACE)
      FROMKEY(1 X'0008872F') TOKEY(1 X'0810199F')
      INCREL((*IF VAC *GT 5.0)) FMTOPT(*MAP *DROP)
```

In this example, the to-file (VACLEFT) is an existing physical file, but its record format differs from that of the physical file named EMP1, which is being copied. Both files are in the PERSONNEL library. The from-file contains employee records and has a key (employee number). The records selected in the from-file are those with employee numbers ranging from 008872 through 810199. Only records for employees with more than five days of vacation (VAC) are mapped to the receiving file. Records are selected from member VAC, and they replace existing records in the first member of file VACLEFT.

Because the key for the file is a packed decimal number, the FROMKEY and TOKEY values must be specified as hexadecimal strings, and the leading zeros and hexadecimal sign are required in the value. An alternative way of specifying the same key value range follows:

```
FROMKEY(*BLDKEY 8872) TOKEY(*BLDKEY 810199)
```

When \*BLDKEY is specified, the copy operation converts each number to the format required for the file key definition. Because only a single value is specified, only one key field is used. The \*BLDKEY form of the FROMKEY and TOKEY parameters allows omission of leading zeros and a positive sign value when the key is numeric.

If the key for a file is a composite of more than one key field, the \*BLDKEY form is used with a list of values for the FROMKEY and TOKEY parameters. For instance, if the key fields for a file are a sales region (10 characters) and the sales for the last month (7 packed decimal numbers with 2 decimal positions), a complete key is specified in either of the following ways:

```
FROMKEY(*BLDKEY (GEORGIA 99.50))
- or -
FROMKEY(2 X'C7C5D6D9C7C9C1404040009950F')
```

When the \*BLDKEY form is used, each character field is padded with blanks, and each numeric field is converted to the actual key format with the value shifted left or right to correctly align the decimal point.

### Example 3: Physical Data File to Physical Source File

```
CPYF FROMFILE(MYLIB/DATAFILE) TOFILE(QIDU/QTXTSRC)
      FROMMBR(A1) TOMBR(*FROMMBR) MBROPT(*REPLACE)
      FMTOPT(*CVTSRC)
```

This command copies records from physical file DATAFILE in library MYLIB, which is defined as FILETYPE(\*DATA), to physical file QTXTSRC in library QIDU, which is defined as FILETYPE(\*SRC). Because the two database files are of different types, FMTOPT(\*CVTSRC) must be specified. Records are copied to member A1, which has the same name as the from-file member. Values are assigned to the



sequence number source field of the records copied to the source file, starting with 1.00 and incremented by 1.00. If SRCOPT(\*SEQNBR) is specified, the SRCSEQ parameter is used to control the sequence numbers that are created. The date source field is always set to zeros.

#### Example 4: Logical File to Physical File

```
CPYF FROMFILE(DEPTS/SALES) TOFILE(DEPTS/YTDSALES)
      FROMMBR(TOTSALES) TOMBR(MARCH) RCFMT(AA)
      NBRRCDS(5) MBROPT(*REPLACE)
```

This command copies five records from member TOTSALES of logical file SALES (in library DEPTS) to member MARCH in the physical file YTDSALES (in library DEPTS). If member MARCH does not exist, it is created and added to the to-file automatically by the copy operation. Only records from the logical file SALES in library DEPTS that use record format AA are copied, and they are copied to YTDSALES, which has the same format. After the copy operation, the MARCH member contains only five nondeleted records, because all records in that member are first cleared, then only the data in the first five records (in keyed sequence) in the TOTSALES member are copied to it.

#### Example 5: Device File to a Physical File

```
CPYF FROMFILE(QDKT) TOFILE(QGPL/QCLSRC) FROMMBR(PAY*)
      TOMBR(*FROMMBR) MBROPT(*REPLACE)
      SRCOPT(*SEQNBR) SRCSEQ(1 .25)
```

This command copies records from the generic set of diskette labels with names that start with the characters PAY. They are copied to like-named members in source file QCLSRC in the QGPL library. Even though the to-file is a source file, a diskette file (QDKT) defined as FILETYPE(\*DATA) is used as the from-file, because QDKT is more efficient than a device file defined as FILETYPE(\*SRC). For each label copied, the sequence number of the first record is 1.00 and is incremented by .25 for each subsequent record. The source date field is automatically set to zeros.

#### Example 6: Physical File to the Printer

```
CPYF FROMFILE(TEMPFILE) TOFILE(*PRINT) FROMMBR(EMP1)
      FROMKEY(1 448762) NBRRCDS(20) OUTFMT(*HEX)
```

This command copies records from member EMP1 in the file named TEMPFILE. The records are employee records. One key field, the employee number, is used to search the record keys. Twenty records, starting with employee number 448762, are copied to the IBM-supplied printer file QSYSPRT and listed in both character and hexadecimal format. The IBM-supplied printer file is indicated by coding TOFILE(\*PRINT).

#### Example 7: Physical File to a Device File

```
CPYF FROMFILE(PERSONNEL/PAYROLL) TOFILE(DISK1)
      FROMMBR(VAC1) INCCHAR(NAME 1 *CT SMITH)
      INCREL((*IF VAC *GT 10.5)(*AND HOLIDAYS *EQ 0))
```

This command copies all employee records of employees whose last name is SMITH and that have accumulated more than ten and a half vacation days, none of which is holidays, from the PAYROLL file in the PERSONNEL library to a diskette. The file member name copied is VAC1. The vacation (VAC) and holiday (HOLIDAYS) fields are defined as packed decimal, but a value is specified in character form on



the INCREL parameter. The diskette device file used is DISK1, which contains the label of the file being copied to, and other diskette attributes such as location and volume ID.

#### Example 8: Physical File to Device Files

```
CPYF FROMFILE(PERSONNEL/PAYROLL) TOFILE(DISK1)
      FROMMBR(*ALL) TOMBR(*FROMMBR)
```

This command copies all members of file PAYROLL in the PERSONNEL library to data files on diskette (device file DISK1). Each from-file member name must be a valid diskette label identifier; if not, use the RNMM (Rename Member) command to rename the members in the from-file before they are copied.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2807

Cancel reply received for message &7.

#### CPF2816

File &1 in &2 not copied because of error.

#### CPF2817

Copy command ended because of error.

#### CPF2818

\*FROMMBR value is not allowed on TOMBR parameter.

#### CPF2835

INCCCHAR starting position and length too long.

#### CPF2857

Multiple member or label copy not allowed with override.

#### CPF2858

File attributes not valid for printed output.

#### CPF2859

Shared open data path not allowed.

#### CPF2864

Not authorized to file &1 in library &2.

#### CPF2875

Wrong file member or label opened.

#### CPF2883

Error creating file &1 in library &2.

#### CPF2888

Member &3 not added to file because of error.

#### CPF2904

Diskette labels not valid for multiple label copy.

#### CPF2906

Value not valid for INCREL field.

#### CPF2909

Error clearing member &3 in file &1 in &2.

- CPF2949**  
Error closing member &3 in file &1 in &2.
- CPF2952**  
Error opening file &1 in library &2.
- CPF2968**  
Position error occurred copying file &1 in &2.
- CPF2971**  
Error reading member &3 in file &1.
- CPF2972**  
Error writing to member &3 in file &1.
- CPF2975**  
Error while reading from keyed file.
- CPF2976**  
Number of errors greater than ERRlvl value.
- CPF3140**  
Initialize or copy of member &2 canceled.
- CPF3143**  
Increments not allowed for member &2.
- CPF3148**  
New records need too much space for member &2.
- CPF3150**  
Data base copy failed for member &2.
- CPF9212**  
Cannot load or unload DDM file &2 in &3.

Top

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## Copy From Directory (CPYFRMDIR)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy From Directory (CPYFRMDIR) command is used to copy system distribution directory data from the local system to a tape or diskette unit. This directory data can then be copied to other remote systems by using the Copy To Directory (CPYTODIR) command on the remote systems. This function allows the remote system to begin a directory shadowing environment with the local system by shadowing changes made to the directory data from the local system.

**Caution:** Do not use this command as a backup utility to save and restore directory data for data recovery purposes. Follow the normal backup and recovery procedure guidelines described in the Recovering your system book, SC41-5304.

**Restriction:** The user must have security administrator (\*SECADM) authority to use this command.

Top

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### Parameters

Keyword	Description	Choices	Notes
LABEL	File label	<i>Character value</i>	Required, Positional 1
DEV	Device	Values (up to 4 repetitions): <i>Name</i>	Required, Positional 2
SYSNAME	System name	Values (up to 50 repetitions): <i>Character value</i>	Optional
VOL	Volume identifier	Single values: *NONE Other values (up to 50 repetitions): <i>Character value</i>	Optional
SEQNBR	Sequence number	1-9999, *END	Optional
ENDOPT	End of tape option	*REWIND, *LEAVE, *UNLOAD	Optional
EXPDATE	File expiration date	<i>Date</i> , *PERM	Optional

Top

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### File label (LABEL)

Specifies the name that identifies the device file label on the tape or diskette to be copied. A maximum of 17 characters can be specified for tape devices and 8 characters for diskette units.

This is a required parameter.

Top

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### Device (DEV)

Specifies the names of the tape or diskette units used for the copy operation. Each tape or diskette unit name must already be known on the system by a device description.

### *diskette-device-name*

Specify the name of the diskette unit to be used for the copy operation.

### *tape-device-name*

Specify the names of one or more tape devices used for the copy operation. If more than one tape device is used, specify the names of the devices in the order in which they are used. When more than one tape volume is used, using more than one tape device permits one tape volume to be rewound or unloaded while another tape device processes the next tape volume.

This is a required parameter.

Top

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## System name (SYSNAME)

Specifies the names of the remote systems that copy the system distribution directory data from the tapes or diskettes created by this command. The names of the remote systems on this parameter are added to the list of system names that are collecting changes to directory data from the local system.

**Note:** You must include the names of all the remote systems that use the tapes or diskettes created by this command to ensure that all changes to directory data are sent to the remote systems during a normal shadowing session.

Top

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## Volume identifier (VOL)

Specifies one or more volume identifiers used by the file.

### \*NONE

No volume identifiers are specified for the file. No volume identifiers are checked.

### *volume-identifier*

Specify the identifiers of one or more volumes in the order in which they are placed in a device.

Top

---

## Sequence number (SEQNBR)

Specifies the sequence number of the data file on the tape being processed. The four-position file sequence number is read from the first header label of the data file.

\*END The copy operation begins after the last sequence number on the tape volume.

### *file-sequence-number*

Specify the sequence number of the file that is used. Valid values range from 0001 through 9999.

Top

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## End of tape option (ENDOPT)

Specifies the operation that is automatically performed on the tape volume after the operation ends. If more than one volume is included, this parameter applies only to the last tape volume used; all other tape volumes are rewound and unloaded when the end of the tape is reached.

### \*REWIND

The tape is automatically rewound, but not unloaded, after the operation has ended.

### **\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

### **\*UNLOAD**

The tape is automatically rewound and unloaded after the operation ends.

Top

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## **File expiration date (EXPDATE)**

Specifies the expiration date. The files cannot be overwritten until the expiration date. The expiration date must be later than or equal to the current date.

### **\*PERM**

The data file is permanently protected. An expiration date of 999999 is assigned.

### *expiration-date*

Specify the date when protection for the file ends.

Top

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## **Examples**

```
CPYFRMDIR  DEV(TAP01)  SYSNAME(CHICAGO NEWYORK)
```

This command copies all of the directory data from the local system to tape device TAP01. CHICAGO and NEWYORK are added to the list of systems that collect changes to the directory data from the local system.

Top

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## **Error messages**

### **\*ESCAPE Messages**

#### **CPF90A8**

\*SECADM special authority required to do requested operation.

#### **CPF90FB**

Directory data not copied because of errors.

Top



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## Copy From Import File (CPYFRMIMPF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy From Import File (CPYFRMIMPF) command copies all or part of an import file to the TOFILE. The term import file is used to describe a file created for purposes of copying data between heterogeneous databases. The import file (FROMSTMF or FROMFILE parameter) is called the from-file for this command.

An important aspect of this command is its ability to copy the data in parallel. Parallelism is activated for files with at least 50,000 records. Records are not copied in parallel when the FROMSTMF is specified. By using the Change Query Attributes (CHGQRYA) command, the number of tasks used to perform the copy is determined by the DEGREE parameter of the CHGQRYA command. For the best performance in implementing this command, the number of tasks should be set to the number of CPUs + 1.

For example, if the system has two CPUs, specify CHGQRYA DEGREE(\*NBRTASKS 3)

To use multiple tasks, you must have the Symmetric Multiprocessing Product (SMP) feature installed on the system.

When copying from a tape file, any file in library QTEMP, a distributed file, or a logical file, only one task will be used. See the CHGQRYA command for more information.

Some of the specific functions that can be performed by the CPYFRMIMPF command include the following:

- Copying a from-file to an externally-described physical file. The to-file must exist on the system before the copy can occur.
- Limiting the range of records copied based on starting and ending relative record numbers.
- Adding records to an existing file member or replacing the contents of a receiving file member (MBROPT parameter).

**Error Handling:** The escape message CPF2817 is sent for many different error conditions that can occur during a copy operation. At least one diagnostic message that indicates the specific error condition always comes before the escape message. More information on handling errors is in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Overrides:** Overrides are processed for all files.

**Status Message:** During the running of the CPYFRMIMPF command, message CPI2801 is sent as a status message informing the interactive user that a copy operation is occurring. More information on preventing status messages from appearing is in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

### Performance:

To increase the performance of the copy:

1. Delete any logical keyed files based on the to-file.
2. Disable all constraints and triggers of the to-file.
3. Ensure the from-file records will be copied correctly by attempting to copy a few of the records, by using the FROMRCD and number of records option, before copying all the records.

4. Use the ERRVLV(\*NOMAX) parameter after knowing the data can be copied correctly.

**Notes For Delimited Data:**

1. A delimiter can not be a blank(' ') character.
2. A blank(' ') can not be contained within a numeric field.
3. Fields in the from-file that are longer than the corresponding fields in the to-file will be truncated (on the right).
4. If the data of the from-file does not represent all the fields in the to-file, the fields of the to-file will be set to null. If this happens and the to-file fields do not allow a null value, an error will occur and the record will not be copied to the to-file.
5. A null field in the from-file can be specified by two adjacent field delimiters, two adjacent string delimiters or a field delimiter followed by a record delimiter.
6. From-file field of all blank characters to be stored in a fixed-length field in the to-file, will preserve blank characters even though removal blanks is specified.
7. From-file field of all blank characters to be stored in a variable-length field in the to-file, will be represented as only one significant blank character when removal blanks is specified.

**Notes For Fixed Data:** The information for each field of the fixed format file must be in the following order:

Field Name	Starting Position	Ending Position	Null Character Position
Field1	1	10	11
Field2	12	15	16
*END			

The information for this Field Definition File would be:

1. The Field Name is the name of the field in the to-file.
2. The Starting Position indicates the byte position in the from-file to start copying data for the field.
3. The Ending Position indicates the byte position in the from-file to end copying data for the field.
4. The Null Character Position is the byte position in the from-file to indicate if the field is null. A value of 'Y' means the field is null. A value of 'N' means the field is not null. If this value is 0, no null character is provided.
5. The \*END is the indicator for the end of the Field Definition File.

The Field Definition File for the above example would be:

```
Field1  1          10          11
Field2  12         15          16
*END
```

6. An alternative for creating the Field Definition File is using the keyword \*COL instead of the actual column names. \*COL indicates the positions of the data in the stream file for all the columns in the target files listed in order.

An example of the corresponding file above Field Definition File using \*COL:

```
*COL  1          10          11
*COL  12         15          16
*END
```

**Notes For LOB data fields:**

LOB data fields require the use of secondary stream files that contain the LOB data and a Field Definition File that describes the offsets of the fields in the data file. Each record that represents a LOB in the import file contains the name of a secondary stream file, instead of the data.



**Note:** In the following example, there are 3 secondary stream files (lob1.dat, lob2.dat, and lob3.dat) inside of the directory "/lobdata", which contain the actual LOB data to import.

Using the following FDF:

Field Name	Starting Position	Ending Position	Null Character Position
Field1	1	10	42
Field2	12	40	44
*END			

The import file would be 44 characters (based on the above FDF) in record length, containing the following data:

0	1	2	3	4	/Character
12345678901234567890123456789012345678901234					/Position
aaaaaaaaa	/lobdata/lob1.dat				N N
bbbbbb	/lobdata/lob2.dat				N N
	/lobdata/lob3.dat				Y N
ccccccccc					N Y

### Restrictions:

- The from-file and to-file cannot be the same file.
- The to-file must exist prior to the copy.
- The to-file will not have the same relative record numbers as the from-file.
- The from-file must be a source file, or a valid file with 1 field that is not a numeric data type.
- If the from-file is defined with the SHARE(\*YES) option for the file, unpredictable results can occur. Therefore, if the file is defined with SHARE(\*YES), the user should make sure the file is not opened by any process prior to the copy.

**Note:** Do not precede an entry with an asterisk unless that entry is a "special value" that is shown (on the display itself or in the help information) with an asterisk.

Top

## Parameters

Keyword	Description	Choices	Notes
FROMSTMF	From stream file	<i>Path name</i>	Optional, Positional 2
FROMFILE	From file	<i>Element list</i>	Optional, Positional 3
	Element 1: File	<i>Qualified object name</i>	
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
	Element 2: Member	<i>Name, *FIRST, *ALL</i>	
TOFILE	To data base file	<i>Element list</i>	Required, Positional 1
	Element 1: File	<i>Qualified object name</i>	
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
	Element 2: Member	<i>Name, *FIRST, *FROMMBR, *ALL</i>	

Keyword	Description	Choices	Notes
MBROPT	Replace or add records	<u>*ADD</u> , *REPLACE, *UPDADD	Optional
STMFLN	Stream file record length	<i>Integer</i> , <u>*TOFILE</u>	Optional
FROMCCSID	From CCSID	1-65533, <u>*FILE</u>	Optional
TOCCSID	To CCSID	1-65533, <u>*FILE</u>	Optional
RCDDL	Record delimiter	<i>Character value</i> , *ALL, *CRLF, *LF, *CR, *LFCR, <u>*EOR</u>	Optional
DTAFMT	Record format of import file	<u>*DLM</u> , *FIXED	Optional
STRDLM	String delimiter	<i>Character value</i> , <u>*DBLQUOTE</u> , *NONE	Optional
STRESCCHR	String escape character	<i>Character value</i> , <u>*STRDLM</u> , *NONE	Optional
RMVBLANK	Remove blanks	*NONE, <u>*LEADING</u> , *TRAILING, *BOTH	Optional
FLDDL	Field delimiter	<i>Character value</i> , <u>'</u> , *TAB	Optional
FLDDFNFILE	Field definition file	<i>Element list</i>	Optional
	Element 1: File	<i>Qualified object name</i>	
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <u>*LIBL</u> , *CURLIB	
	Element 2: Member	<i>Name</i> , <u>*FIRST</u> , *ALL	
DECPNT	Decimal point	<u>*PERIOD</u> , *COMMA	Optional
DECFLTRND	Decimal float rounding mode	<u>*HALFEVEN</u> , *HALFDOWN, *HALFUP, *UP, *CEILING, *DOWN, *FLOOR	Optional
DATFMT	Date format	<u>*ISO</u> , *USA, *EUR, *JIS, *MDY, *DMY, *YMD, *JUL, *YYMD	Optional
DATSEP	Date separator	<u>'</u> , <u>'</u> , <u>'</u> , <u>'</u> , *BLANK	Optional
TIMFMT	Time format	<u>*ISO</u> , *USA, *EUR, *JIS, *HMS	Optional
TIMSEP	Time separator	<u>'</u> , <u>'</u> , *BLANK	Optional
FROMRCD	Copy from record number	<i>Element list</i>	Optional
	Element 1: Copy from record number	<i>Unsigned integer</i> , <u>*FIRST</u>	
	Element 2: Number of records to copy	<i>Unsigned integer</i> , <u>*END</u>	
ERRLVL	Errors allowed	<i>Unsigned integer</i> , <u>*NOMAX</u>	Optional
ERRRCDFILE	Error record file	Single values: <u>*NONE</u> Other values: <i>Element list</i>	Optional
	Element 1: File	<i>Qualified object name</i>	
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <u>*LIBL</u> , *CURLIB	
	Element 2: Member	<i>Name</i> , <u>*FIRST</u> , *ALL	
ERRRCDOPT	Replace or add records	<u>*ADD</u> , *REPLACE	Optional
RPLNULLVAL	Replace null values	<u>*NO</u> , *FLDDFT	Optional
IDCOL	Identity column	<u>*GEN</u> , *FROMFLD	Optional

Top

## From stream file (FROMSTMF)

Specifies the path name of the stream file from which data is to be copied. Either this parameter or the FROMFILE parameter is required.

### *path-name*

Specify the path name of the input stream file.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## From file (FROMFILE)

Specifies the from-file and file member that contains the records to be copied. Either this parameter or the FROMSTMF parameter is required.

The from-file can be any of the following file types:

- source physical file
- DDM file
- distributed physical file
- program-described physical file
- single-format logical file
- physical file with one (non-numeric) field
- tape file.

### Element 1: File

#### Qualifier 1: File

*name* Specify the name of the file that contains the records to be copied.

#### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

### Element 2: Member

#### **\*FIRST**

The first member (in order of creation date) of the from-file is used. Specifying \*FIRST is not allowed if the from-file has no members, unless a member name was specified on an OVRDBF (Override with Database File) command for the from-file.

**\*ALL** All members of the specified from-file are to be copied. \*ALL is not valid for a tape file.

*name* Specify the name of the file member to be used.

Top

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## To data base file (TOFILE)

Specifies the output database file and member to receive the copied records. The output file is also referred to as the to-file .

The to-file can be any of the following file types:

- source physical file
- DDM file
- distributed physical file
- program-described physical file
- externally-described physical file.

This is a required parameter.

### Element 1: File

#### Qualifier 1: File

*name* Specify the name of the file to receive the copied records.

#### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

### Element 2: Member

#### **\*FIRST**

The first member (in order of creation date) of the output file is used. Specifying \*FIRST is not allowed if the to-file has no members, unless a member name was specified on an OVRDBF (Override with Database File) command for the to-file.

**\*ALL** The data is copied to the correct to-member of the partitioned table. \*ALL is only valid for partitioned tables.

#### **\*FROMMBR**

Corresponding from-file and to-file member names are used.

*name* Specify the name of the file member to receive the copied records. If a member with the specified name does not already exist in the file, the member will be created.

Top

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## Replace or add records (MBROPT)

Specifies whether the copy operation replaces, adds, or updates the records in a database file member if a member with the specified name already exists. If the member does not exist, it is created and added to the database file.

**Note:** If \*ADD or \*UPDADD is specified and the to-file contains no records, the copy operation completes normally. If \*REPLACE is specified and the to-file contains no records, the copy operation ends abnormally.

**\*ADD** The copied records are added to the end of the existing member records.

**\*REPLACE**  
The copied records replace the existing member records.

**\*UPDADD**  
The system updates the duplicate key records and adds the new records to the end of the existing records. Additional information is available in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

Top

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## Stream file record length (STMFLEN)

The maximum record length of any record of the stream file when \*DLM is specified for the **Record format of import file (DTAFMT)** parameter, or the actual record length of all the records of the stream file when \*FIXED is specified for the DTAFMT parameter.

**\*TOFILE**  
The record length of the to-file record is used.

*record-length*  
Specify the length to be used for each record of the stream file.

Top

---

## From CCSID (FROMCCSID)

Specifies the coded character set identifier (CCSID) of the from-file.

**\*FILE** The from-file CCSID is used. If the from-file is a tape file, the job's default CCSID is used.

**1-65533**  
Specify the CCSID to be used when the CCSID of the from-file is 65535, or if the from-file is a tape file. If the from-file CCSID is not 65535, or the from-file is not a tape file, an error message will be sent.

Top

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## To CCSID (TOCCSID)

Specifies the coded character set identifier (CCSID) to use for the to-file fields.

**\*FILE** The data is converted to the to-file field CCSID. If the CCSID of the to-file field is 65535, the field is not converted and it is treated as binary data.

**1-65533**  
Specify the CCSID to be used when the CCSID of the to-file field is 65535. If the CCSID of the to-file field is not 65535, this parameter is ignored.

Top

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## Record delimiter (RCDDLML)

Specifies the record delimiter to be used.

If the FROMFILE parameter is specified, valid values are \*EOR or a character value. If the FROMSTMF parameter is specified, valid values are \*CR, \*CRLF, \*LF, \*LFCR or \*ALL.

**\*EOR** End of record.

**\*ALL** First occurrence of any single or double character combination of carriage-return and line-feed.

**\*CRLF**  
Carriage-return followed by line-feed.

**\*LF** Line-feed.

**\*CR** Carriage-return.

**\*LFCR**  
Line-feed followed by carriage-return.

*character-value*

Specify the single character which indicates the end of a single record.

Top

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## Record format of import file (DTAFMT)

Specifies the format of the data in the from-file.

**\*DLM** The data contains delimiter characters. Refer to parameter descriptions for STRDLM, FLDDLML, and RCDDLML for information on string, field, and record delimiter characters.

**\*FIXED**  
The data format is fixed. The data is in fixed columns in each record. The description of the format of the data is contained in the file member identified by the FLDDFNFILE parameter. Refer to the parameter description for RCDDLML for information on the record delimiter character.

Top

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## String delimiter (STRDLM)

Specifies the string delimiter for the data of the fields being copied from. This character indicates the start and end of character, date, time, and timestamp strings in the from-file. Depending on the utility used to create the from-file, some types of strings may appear in the from-file without string delimiter characters.

The specified delimiter character will be converted from the coded character set identifier (CCSID) of the job to the CCSID of the from-file.

**\*DBLQUOTE**  
The double quote character is used as the string delimiter.

**\*NONE**  
No delimiter is expected as the string delimiter. The blank character ( ) represents the \*NONE value.

*character-value*

Specify the character value for the string delimiter.

Top

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## String escape character (STRESCCHR)

Specifies the character to be looked for within string fields in the from-file. Character fields in the from-file may contain characters that have a special meaning to CPYFRMIMPF. These characters include the string delimiter and the string escape character itself. As a result, CPYFRMIMPF could misinterpret the data and produce unexpected results.

The string escape character precedes such characters in the data and revokes their special meaning. CPYFRMIMPF can then determine if the character is data or a string delimiter. The escape characters are not imported into the to-file.

This parameter describes the method that the export utility used for character fields that contained the string escape character or string delimiter.

The specified string escape character will be converted from the coded character set identifier (CCSID) of the job to the CCSID of the from-file. If the from-file CCSID is 1200, 1208, or 13488 the string escape character is converted to the job CCSID, or the job's default CCSID when the job CCSID is 65535.

### **\*STRDLM**

The string delimiter is used as the escape character. If a character data field contains two adjacent string delimiter characters, they are interpreted as a single data character.

### **\*NONE**

No string escape character is present in the data. If any string delimiter characters are present in the data, they will be treated as string delimiters.

### *character-value*

Specify the character to be used as the escape character.

Top

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## Remove blanks (RMVBLANK)

Specifies whether blanks are removed or retained.

### **\*LEADING**

Leading blanks are removed.

### **\*TRAILING**

Trailing blanks are removed.

### **\*BOTH**

Leading and trailing blanks are removed.

### **\*NONE**

All leading and trailing blanks are retained.

Top

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## Field delimiter (FLDDLML)

Specifies the field delimiter for the record being copied from. This value is used to determine where one field ends and the next field begins.

**','** The comma character is the default name of the field delimiter.

**\*TAB** The horizontal tab character is used as field delimiter.

*character-value*

Specify the character value for the field delimiter.

Top

---

## Field definition file (FLDDFNFILE)

Specifies the field definition file which defines the format of the data when \*FIXED is specified for the **Record format of import file (DTAFMT)** parameter. If DTAFMT(\*FIXED) is specified, this parameter is required.

The field definition file can be any of the following file types:

- source physical file
- DDM file
- distributed physical file
- program-described physical file
- externally-described physical file with one field.

### Element 1: File

#### Qualifier 1: File

*name* Specify the name of the file that contains the fixed field definition.

#### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

### Element 2: Member

#### **\*FIRST**

The first member (in order of creation date) in the field definition file is used.

*name* Specify the name of the field definition file member to use.

Top

---

## Decimal point (DECPNT)

Specifies the decimal point character to be used when copying numeric data from the from-file.

#### **\*PERIOD**

A period (.) is used for the decimal point character.

#### **\*COMMA**

A comma (,) is used for the decimal point character.



---

## Decimal float rounding mode (DECFLTRND)

Specifies the mode that will be used when rounding decimal floating point data.

### \*HALFEVEN

Round to nearest; if equidistant, round so that the final digit is even. If the discarded digits represent greater than half (0.5) the value of a one in the next left position then the result coefficient should be incremented by 1 (rounded up). If they represent less than half, then the result coefficient is not adjusted (that is, the discarded digits are ignored). Otherwise (they represent exactly half) the result coefficient is unaltered if its rightmost digit is even, or incremented by 1 (rounded up) if its rightmost digit is odd (to make an even digit). This is the default value for the parameter.

### \*HALFDOWN

Round to nearest; if equidistant, round down. If the discarded digits represent greater than half (0.5) of the value of a one in the next left position then the result coefficient should be incremented by 1 (rounded up). Otherwise (the discarded digits are 0.5 or less) the discarded digits are ignored.

### \*HALFUP

Round to nearest; if equidistant, round up. If the discarded digits represent greater than or equal to half (0.5) of the value of a one in the next left position then the result coefficient should be incremented by 1 (rounded up). Otherwise the discarded digits are ignored.

\*UP Round away from 0; if all of the discarded digits are zero the result is unchanged other than the removal of discarded digits. Otherwise, the result coefficient should be incremented by 1 (rounded up).

### \*CEILING

Round towards +infinity. If all of the discarded digits are zero or if the sign is negative the result is unchanged other than the removal of discarded digits. Otherwise, the result coefficient should be incremented by 1 (rounded up).

### \*DOWN

Round towards 0. The discarded digits are ignored, this is the same as truncation and is conceptually the same as 'round to zero'.

### \*FLOOR

Round towards -infinity. If all of the discarded digits are zero or if the sign is positive the result is unchanged other than the removal of discarded digits. Otherwise, the sign is negative and the result coefficient should be incremented by 1.

---

## Date format (DATFMT)

Specifies the date format to be used when copying date fields from the from-file.

\*ISO The International Organization for Standardization (ISO) date format **yyyy-mm-dd** is used.

\*USA The United States date format **mm/dd/yyyy** is used.

\*EUR The European date format **dd.mm.yyyy** is used.

\*JIS The Japanese Industrial Standard date format **yyyy-mm-dd** is used.

\*MDY The date format **mm/dd/yy** is used.

\*DMY The date format **dd/mm/yy** is used.

- \*YMD The date format **yy/mm/dd** is used.
- \*JUL The Julian date format **yy/ddd** is used.
- \*YYMD  
The date format **yyyymmdd** is used.

Top

---

## Date separator (DATSEP)

Specifies the date separator for the date format. The separator is ignored for DATFMT of \*ISO, \*USA, \*EUR, and \*JIS because these formats have a fixed date separator.

- '/' A forward slash is used as the date separator character.
- '-' A hyphen is used as the date separator character.
- '.' A period is used as the date separator character.
- ',' A comma is used as the date separator character.
- \*BLANK  
A blank is used as the date separator character.

Top

---

## Time format (TIMFMT)

Specifies the time format to be used when copying time fields from the from-file.

- \*ISO The International Organization for Standardization (ISO) time format **hh.mm.ss** is used.
- \*USA The United States time format **hh:mm xx** is used, where **xx** is AM or PM.
- \*EUR The European time format **hh.mm.ss** is used.
- \*JIS The Japanese Industrial Standard time format **hh:mm:ss** is used.
- \*HMS The **hh:mm:ss** format is used.

Top

---

## Time separator (TIMSEP)

Specifies the time separator for the time format. This parameter is ignored if \*ISO, \*USA, \*EUR, or \*JIS is specified for the **Time format (TIMFMT)** parameter because those time formats define the required time separator character.

- '/' A colon is used as the time separator character.
- '.' A period is used as the time separator character.
- \*BLANK  
A blank is used as the time separator character.

Top

---

## Copy from record number (FROMRCD)

Specifies which records are copied from the from-file.

### Element 1: Copy from record number

#### \*FIRST

The copy operation begins with the first record in the from-file.

#### *1-4294967288*

Specify the record number of the first record to be copied from the from-file.

### Element 2: Number of records to copy

\*END Records are copied until the end-of-file condition is indicated.

#### *1-4294967288*

Specify the number of records to be copied from the from-file. If an end-of-file condition is reached before this number of records has been copied, no error message is issued and the copy operation ends normally.

Top

---

## Errors allowed (ERRLVL)

Specifies the maximum number of recoverable read or write errors for the to-file that are tolerated during the copy operation.

#### \*NOMAX

No maximum number of errors is specified, and all recoverable errors are tolerated. The copy operation continues regardless of the number of recoverable errors found.

#### *number-of-errors*

Specify the maximum number of recoverable errors allowed. If one more recoverable error occurs than the value specified here, the copy operation ends.

Top

---

## Error record file (ERRRCDFILE)

Specifies the database file where the records that are in error should be written.

The error record file can be any of the following file types:

- source physical file
- DDM file
- distributed physical file
- program-described physical file
- externally-described physical file.

### Single values

#### \*NONE

No error record file is provided.

### Element 1: File

### Qualifier 1: File

*name* Specify the name of the error record file.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

### Element 2: Member

#### \*FIRST

The first member (in order of creation date) in the error file is used.

*name* Specify the error file member to be used to contain the from-file records which contained errors.

Top

---

## Replace or add records (ERRRCDOPT)

Specifies how error records are added to the error record file.

\*ADD The system adds the new records to the end of the existing records.

#### \*REPLACE

The system deletes any existing records and adds the new records.

Top

---

## Replace null values (RPLNULLVAL)

Specifies whether null field values will be replaced when copying import file records.

\*NO If a field in the to-file is null capable a null value will be used. Otherwise an error will be sent.

#### \*FLDDFT

If a null value is detected when parsing an import file record, the corresponding field in the database file record is assigned a default value based on the field type or DDS default value.

Top

---

## Identity column (IDCOL)

Specifies, if the to-file is an SQL table which contains a column with the IDENTITY attribute or a column with the ROWID data type, whether the value for the column will be generated by the system or the default value is used.

\*GEN A system-generated value will be inserted into the Identity Column or ROWID column.

#### \*FROMFLD

If a value exists in the Identity Column or ROWID column of the fromfile field, this value will be inserted into the Identity Column of the to-file.

---

## Examples

### Example 1: Copying Physical File Import File

```
CHGQRYA  DEGREE(*NBRTASKS 3)
:
CPYFRMIMPF  FROMFILE(IMPFILE)  TOFILE(DB2FILE)
            FLDDL(';' ) RCDDL('X'07')
            DATFMT(*JIS) TIMFMT(*JIS)
```

The Change Query Attribute (CHGQRYA) is run prior to CPYFRMIMPF to allow the copy processing to be done by three tasks running in parallel.

All records of file IMPFILE will be copied to the externally-described physical file DB2FILE. Fields in the from-file are delimited by semi-colon (;) characters. Each record in the from file is delimited by a hexadecimal '07' character. Input date fields are in **yyyy-mm-dd** format. Input time fields are in **hh:mm:ss** format.

### Example 2: Copying Tape File Import File

```
OVRTAPF  FILE(QTAPE)  DEV(TAP02)  SEQNBR(3)
:
CPYFRMIMPF  FROMFILE(QTAPE)  TOFILE(DB2WHS)  ERRFILE(IMPERR)
```

The Override Tape File (OVRTAPF) parameter is run prior to CPYFRMIMPF to indicate that tape device TAP02 should be used for doing the copy. The from-file must be the third file on the tape mounted on TAP02.

All records of the from-file will be copied to the externally described physical file DB2WHS. Fields in the from-file are delimited by comma (,) characters. Input date fields are in **yyyy-mm-dd** (ISO) format. Input time fields are in **hh.mm.ss** (ISO) format. From-file records that are found to contain errors and cannot be added to file DB2WHS are added to error file IMPERR.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2817

Copy command ended because of error.

Top



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## Copy From LDIF (CPYFRMLDIF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

Parameters  
Examples  
Error messages

The Copy From LDIF (CPYFRMLDIF) command is used to copy directory entries from a LDAP Data Interchange Format (LDIF) stream file to the directory for a Directory Server instance. The Directory Server provides a Lightweight Directory Access Protocol (LDAP) server on i5/OS. The command can only be used to add new entries to the directory, it cannot change or delete entries already in the directory.

**Restriction:** You must do or satisfy one of the following conditions to use this command:

- Have all object (\*ALLOBJ) and input/output system configuration (\*IOSYSCFG) special authorities.
- Supply the administrator distinguished name and password.
- Be a Directory Services administrator. The caller is a Directory Services administrator if the Directory Services server has been configured to grant administrator access to authorized users and the caller is authorized to the 'Directory Services Administrator' function of the operating system.

Top

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### Parameters

Keyword	Description	Choices	Notes
LDIFSTMF	LDIF stream file	<i>Path name</i>	Required, Positional 1
INSTANCE	Instance	<i>Name, QUSRDIR</i>	Optional, Positional 2
ADMIN	Administrator	<i>Element list</i>	Optional
	Element 1: Distinguished name	<i>Character value</i>	
	Element 2: Password	<i>Character value</i>	
REPLICATE	Replicate imported data	<i>*YES, *NO</i>	Optional

Top

---

### LDIF stream file (LDIFSTMF)

Specifies the integrated file system path to the LDAP Data Interchange Format (LDIF) stream file.

This is a required parameter.

*path-name*

Specify the path name of the LDIF stream file that contains the directory entries to be copied into the directory for the Directory Server instance.

Top

---

## Instance (INSTANCE)

Specifies the Directory Server instance name whose directory the directory entries are copied to.

### QUSRDIR

The name of the system default Directory Server instance.

*name* Specify a Directory Server instance name. The name has a minimum of one character and a maximum of eight characters.

Top

---

## Administrator (ADMIN)

Specifies the Directory Server administrator. If not specified, the user must have \*ALLOBJ and \*IOSYSCFG special authorities.

### Element 1: Distinguished name

#### *character-value*

Specify the distinguished name for the Directory Server administrator, for example, cn=administrator. A maximum of 50 characters is allowed.

### Element 2: Password

#### *character-value*

Specify the password for the Directory Server administrator. The password is case sensitive and must be enclosed in apostrophes. A maximum of 50 characters is allowed.

Top

---

## Replicate imported data (REPLICATE)

Specifies whether copied directory entries should be replicated to replica Directory Servers. This option could be used, for example, when initializing an additional master server so that it does not attempt to replicate data to Directory Servers already containing these directory entries.

\*YES Copied directory entries are replicated.

\*NO Copied directory entries are not replicated.

Top

---

## Examples

### Example 1: Copy to the QUSRDIR Directory

```
CPYFRMLDIF LDIFSTMF('/ldap/qsrdir.ldif') INSTANCE(QUSRDIR)
```

This command copies the directory entries from the **qsrdir.ldif** stream file in the **ldap** directory to the Directory Server directory for the QUSRDIR instance. The user running the command this way must have all object (\*ALLOBJ) and input/output system Configuration (\*IOSYSCFG) special authorities.

### Example 2: Copy to the QUSRDIR Directory and Replicate

```
CPYFRMLDIF LDIFSTMF('/ldap/qsrdir.ldif') INSTANCE(QUSRDIR)
            REPLICATE(*YES) ADMIN('cn=admin' 'secret')
```



This command copies the directory entries from the **qusrdir.ldif** stream file in the **ldap** directory to the Directory Server directory for the QUSRDIR instance. The copied data will be replicated to the replica Directory Servers.

### Example 3: Copy to the DOGGIES Directory

```
CPYFRMLDIF LDIFSTMF('/ldap/doggies.ldif') INSTANCE(DOGGIES)
           ADMIN('cn=fluffy' 'poodle')
```

This command copies the directory entries from the **doggies.ldif** stream file in the **ldap** directory to the Directory Server directory for the DOGGIES instance.

Top

---

## Error messages

### \*ESCAPE Messages

#### GLD0202

Administrator DN or password not correct.

#### GLD0213

Error opening or creating file.

#### GLD0215

Directory server instance &1 not found.

#### GLD0218

Not enough authority or incorrect distinguished name and password specified.

#### GLD0225

&1 items added to directory, &2 items not added.

#### GLD0226

Client request rejected. Directory server is read only.

Top



# Copy From PC Document (CPYFRMPCD)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Copy From PC Document (CPYFRMPCD) command copies the data in a PC document to a system database file.

**Note:** Do not precede an entry with an asterisk unless that entry is a "special value" that is shown (on the display itself or in the help information) with an asterisk.

## Error messages for CPYFRMPCD

### \*ESCAPE Messages

#### IWS1603

PC document copied to file with &6 truncated records.

#### IWS1611

PC document &1 not copied.

Top

## Parameters

Keyword	Description	Choices	Notes
FROMFLR	From folder	<i>Character value</i>	Required, Positional 1
TOFILE	To file	<i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: To file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
FROMDOC	From document	<i>Character value</i>	Required, Positional 3
TOMBR	To member	<i>Name, *FIRST, *FROMDOC</i>	Optional, Positional 4
MBROPT	Replace or add records	<b>*REPLACE</b> , *ADD	Optional, Positional 5
TRNTBL	Translate table	Single values: <b>*DFT</b> , *NONE Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Translate table	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
TRNFMT	Format of PC data	<b>*TEXT</b> , *NOTEXT	Optional
TRNIGC	DBCS code page	<b>*DFT</b> , *JPN, *CHT, *BG5, *CHS, *KOR, *KSC, *SCGS, *NONE	Optional
IGCSOSI	Insert DBCS SO/SI	<b>*YES</b> , *NO	Optional

Top

---

## From folder (FROMFLR)

Specifies the name of a folder containing the PC document that is copied. This parameter can also specify the name of a folder path in the form:

- folder1/folder2/folder3/.../foldern

The path name can be up to 63 characters in length.

This is a required parameter.

Top

---

## To file (TOFILE)

Specifies the name and library of the physical database file that you are copying the PC document to.

If this file is a source file and you choose to translate the PC document, a sequence number is added and a system date of zeroes is added as it is copied to the file.

This is a required parameter.

The possible library values are:

**\*LIBL** The library list is used to locate the database file.

**\*CURLIB**

The current library for the job is used to locate the database file. If no current library entry exists in the library list, QGPL is used.

*library-name*

Specify the library where the database file is located.

Top

---

## From document (FROMDOC)

Specifies the name of the PC document that is copied. The name has the following format:

- filename.extension

The filename can be from 1 to 8 characters, and the extension can be from 1 to 3 characters. The extension is not required.

This is a required parameter.

Top

---

## To member (TOMBR)

Specifies the name of the member to contain the copied PC document. If no member is specified, the first member of the file is the member that is copied to. If the member does not exist, it is created.

**\*FIRST**

The PC document is copied to the first member.

### **\*FROMDOC**

The member being copied to has the same name as the PC document. (The PC document name must be a valid system member name.)

#### *member-name*

Specify the member name that the PC document is copied to.

Top

---

## **Replace or add records (MBROPT)**

Specifies if the copied records are added to or replace the existing records in the physical file.

### **\*REPLACE**

The copied records replace the existing records in the physical file member.

**\*ADD** The copied records are added to the existing records in the physical file member.

Top

---

## **Translate table (TRNTBL)**

Specifies if translation is performed and, if so, the name of the translation table used to translate the data from ASCII to EBCDIC.

**Note:** For a user defined double-byte character set, this parameter also specifies if translation is performed and, if so, which translation table is used for single-byte translation.

**\*DFT** The default translation table is used.

#### *translation-table-name*

Specify the name and library of the translation table.

The possible library values are:

**\*LIBL** The library list is used to locate the table.

#### **\*CURLIB**

The current library for the job is used to locate the table. If no current library entry exists in the library list, QGPL is used.

#### *library-name*

Specify the library where the table is located.

### **\*NONE**

No translation from ASCII to EBCDIC is performed. Data is copied byte for byte.

Top

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## **Format of PC data (TRNFMT)**

Specifies the format of the records in the PC document.

This parameter is not valid if **\*NONE** is specified on the **Translate table** prompt (TRNTBL parameter).

### **\*TEXT**

The PC document records in standard DOS ASCII variable length format are transformed to the fixed length format of the database file. The carriage return, line feed, and end of file characters

are removed. Imbedded tab characters are expanded to blanks, and the record is padded with EBCDIC blanks to fill out the fixed length format.

**\*NOTEXT**

The records in the PC document are considered fixed length records of the same length as the physical database file records they are copied to.

Top

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## DBCS code page (TRNIGC)

Specifies the double-byte character set used for translation. Unless overridden by the **Translate table** prompt (TRNTBL parameter), this parameter also specifies the single-byte translation table.

**\*DFT** The default country or region's double-byte character set.

**\*JPN** IBM Japanese.

**\*CHT** IBM Traditional Chinese.

**\*BG5** Taiwan Industry standard (BIG-5).

**\*CHS** IBM Simplified Chinese.

**\*KOR** IBM Korean (KS).

**\*KSC** Korean Industry standard.

**\*SCGS**

The People's Republic of China National standard (GB).

**\*NONE**

No double-byte translation is performed.

Top

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## Insert DBCS SO/SI (IGCSOSI)

Specifies if shift-out and shift-in characters are inserted during translation. This parameter is valid only for double-byte character set users. This parameter is not valid if \*NONE is specified on the **Translate table** prompt (TRNTBL parameter).

**\*YES** Shift-out and shift-in characters are inserted during translation.

**\*NO** Shift-out and shift-in characters are not inserted during translation.

Top

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## Examples

None

Top

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## Error messages

**\*ESCAPE Messages**

**IWS1603**

PC document copied to file with &6 truncated records.

**IWS1611**

PC document &1 not copied.

Top





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## Copy From PCF File (CPYFRMPCFF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy From Portable Compiled Format File (CPYFRMPCFF) command copies all user-defined DBCS character fonts contained in a Portable Compiled Format (PCF) file to a double-byte character set (DBCS) font table. During the copy operation, a dot matrix conversion is automatically performed.

The following table lists the supported dot matrix conversions.

From DBCS font table	To PCF file
24-by-24	16-by-16
24-by-24	24-by-24
24-by-24	32-by-32
24-by-24	48-by-48
32-by-32	16-by-16
32-by-32	24-by-24
32-by-32	32-by-32
32-by-32	48-by-48

There are differences in the number of supported user-defined DBCS characters between a DBCS font table and PCF file.

The following table lists the maximum number of user-defined DBCS character fonts that can be copied for each type of DBCS font table.

DBCS font table	Maximum number	First DBCS code	Last DBCS code
Japanese	1880	6941	72EA
Korean	1880	D441	DDEA
Traditional Chinese	2660	D041	DDFE
Simplified Chinese	1880	7641	7FEA

**Restrictions:** You must have the following authority:

1. \*USE authority to the CPYIGCTBL, CRTPF, CHKIN and CHKOUT commands.
2. \*CHANGE authority to the DBCS font table.
3. \*X authority to directories in the PCF file path name prefix.
4. \*RW authority to the PCF file.

Top

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## Parameters

Keyword	Description	Choices	Notes
FROMPCFF	From PCF file	<i>Path name</i>	Required, Positional 1

Keyword	Description	Choices	Notes
TOIGCTBL	To DBCS font table	QIGC2424, QIGC2424K, QIGC2424C, QIGC2424S, QIGC3232, QIGC3232S	Required, Positional 2
RPLFNT	Replace font	*NO, *YES	Optional

Top

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## From PCF file (FROMPCFF)

Specifies the path name of the PCF file from which user-defined DBCS character fonts are copied. The PCF file is a stream file object, and it must be a user-defined character set with UCS-2 encoding.

This is a required parameter.

Top

---

## To DBCS font table (TOIGCTBL)

Specifies the name of the DBCS font table to which user-defined DBCS character fonts are copied.

This is a required parameter.

### QIGC2424

The Japanese DBCS font table used for displaying and printing extension characters in a 24-by-24 dot matrix font.

### QIGC2424C

The Traditional Chinese DBCS font table used for printing extension characters in a 24-by-24 dot matrix font.

### QIGC2424K

The Korean DBCS font table used for printing extension characters in a 24-by-24 dot matrix font.

### QIGC2424S

The Simplified Chinese DBCS font table used for printing extension characters in a 24-by-24 dot matrix font.

### QIGC3232

The Japanese DBCS font table used for displaying and printing extension characters in a 32-by-32 dot matrix font.

### QIGC3232S

The Simplified Chinese DBCS font table used for printing extension characters in a 32-by-32 dot matrix font.

### QIGCrrccl

The name of the DBCS font table to be copied must always be in the format QIGCrrccl, where *rr* is the table row matrix size, *cc* is the table column matrix size, and the letter *l* is an optional language identifier.

Top

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## Replace font (RPLFNT)

Specifies whether user-defined DBCS character fonts in the specified DBCS font table are replaced with those from the specified PCF file.

- \*NO** The system does not replace user-defined DBCS character fonts in the DBCS font table with those from the specified PCF file.
- \*YES** The system replaces user-defined DBCS character fonts in the DBCS font table with those from the specified PCF file.

Top

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## Examples

### Example 1: Copying Without Replacing Existing Fonts

```
CPYFRMPCFF
  '/QIBM/ProdData/NetworkStation/fonts/pcf/IBM_JPN17.pcf'
  TOIGCTBL(QIGC2424) RPLFNT(*NO)
```

This command copies all user-defined DBCS character fonts contained in the Japanese PCF file named IBM\_JPN17.pcf (24-by-24 dot matrix font) in directory /QIBM/ProdData/NetworkStation/fonts/pcf to the Japanese DBCS font table QIGC2424 (24-by-24 dot matrix font). Only user-defined DBCS character fonts that are not found in the DBCS font table are copied.

### Example 2: Copying User-Defined DBCS Character Fonts From DBCS Font Table to PCF File Replacing Existing Fonts

```
CPYFRMPCFF '/QIBM/ProdData/NetworkStation/fonts/pcf/Chtpc17.pcf'
  TOIGCTBL(QIGC2424C) RPLFNT(*YES)
```

This command copies all user-defined DBCS character fonts contained in the Traditional Chinese PCF file named Chtpc17.pcf (24-by-24 dot matrix font) in directory /QIBM/ProdData/NetworkStation/fonts/pcf to the Traditional Chinese DBCS font table QIGC2424C (24-by-24 dot matrix). User-defined DBCS character fonts in the DBCS font table are replaced with those found in the PCF file.

Top

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## Error messages

### \*ESCAPE Messages

```
CPFB7A7
  &1 command ended due to error.
```

Top



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## Copy From Query File (CPYFRMQRYF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Conditional

Parameters  
Examples  
Error messages

The Copy From Query File (CPYFRMQRYF) command copies either all or part of a file that is opened with the Open Query File (OPNQRYF) command to a physical file, DDM file, program-described printer file, or tape file. Alternatively, \*PRINT can be specified for the **To file (TOFILE)** parameter to print the selected records using the IBM-supplied printer file, QSYSPRT.

**Note:** For more information on DDM files, see the Distributed database programming topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

This command can:

- Add records to an existing physical file member or replace contents of a receiving physical file member by using the MBROPT parameter.
- Copy records from an open query file format that is different than the to-file record format and convert records when copying to a source physical file. When the formats are different, the copy operation can:
  - Map fields that have the same name in the open query file format and the to-file record format
  - Drop fields from the open query file format that do not exist in the to-file record format
  - Copy the records directly, disregarding the differences between the open query file format and the to-file record format
- Select a printout format when TOFILE(\*PRINT) is specified. The records can be listed in character format, or in both character and hexadecimal format (OUTFMT parameter).
- If the to-file does not exist before the copy operation, create the file (CRTFILE parameter) so that it has the same format as the open query file. Only the name, type, length, and decimal positions of each field in the open query format are used.
- Copy a specified number or all of the records from an open query file depending if NBRRCDS(\*END) was used or if a specific number was specified on the NBRRCDS parameter.

Additional information about CPYFRMQRYF is in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> and the Database category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

### Restrictions:

- The open query file used by the CPYFRMQRYF command must not use any DDM files (specified on the FILE parameter of the OPNQRYF command).
- A member cannot be copied to itself. This restriction means that a member specified by the TOFILE and TOMBR parameters of the CPYFRMQRYF command cannot have the same name as any member specified on the FILE parameter of the OPNQRYF command, nor can the member have the same qualified name as any physical file members used by logical files that are on the FILE parameter of the OPNQRYF command.
- When the CRTFILE(\*YES) parameter is specified and the FROMOPNID parameter identifies a query file that has an associated trigger, the file created (TOFILE parameter) does not have the associated trigger. The Add Physical File Trigger (ADDPFTRG) command must be used to add a trigger to the file.
- In multithreaded jobs, this command is not threadsafe if the OPNQRYF command is not run in a threadsafe manner, or if copying to multiple database members, device files (except SPOOL(\*YES) print files), distributed files, or DDM files of type \*SNA. This command fails for distributed files that use

relational databases of type \*SNA and DDM files of type \*SNA. It is threadsafe ONLY when copying to single database file members (local or DDM of type \*IP) or SPOOL(\*YES) print files provided the OPNQRYF command is run in a threadsafe manner.

Top

## Parameters

Keyword	Description	Choices	Notes
FROMOPNID	From open file identifier	<i>Name</i>	Required, Positional 1
TOFILE	To file	Single values: *PRINT Other values: <i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: To file	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
TOMBR	To member or label	<i>Name</i> , *FIRST	Optional
MBROPT	Replace or add records	*NONE, *ADD, *REPLACE	Optional
CRTFILE	Create file	*NO, *YES	Optional
OUTFMT	Print format	*CHAR, *HEX	Optional
NBRRCDS	Number of records to copy	<i>Unsigned integer</i> , *END	Optional
FMTOPT	Record format field mapping	Single values: *NONE, *NOCHK, *CVTSRC Other values (up to 2 repetitions): *MAP, *DROP	Optional
ERRLVL	Errors allowed	<i>Unsigned integer</i> , 0, *NOMAX	Optional

Top

### From open file identifier (FROMOPNID)

Specifies the name used on the OPNQRYF command for identifying the open identifier for the query file. You must specify an open identifier associated with an open query file that allows input, update, or all operations specified by the OPNID and OPTION parameters on the OPNQRYF command.

This is a required parameter.

Top

### To file (TOFILE)

Specifies the file that receives the copied records.

**Note:** A device file can be a tape file or a program-described printer file.

This is a required parameter.

#### Single values

##### \*PRINT

The data is copied to a system printer device file (QSYSPRT) and formatted according to the value specified for the **Print format (OUTFMT)** parameter.

The IBM-supplied printer file, QSYSPRT, may not be overridden to a different file name, and it must have the RPLUNPRT(\*YES) and CTLCHAR(\*NONE) attributes.

### Qualifier 1: To file

*name* Specify the name of the physical file or device file that receives the copied records. If CRTFILE(\*YES) is specified and the specified file cannot be found, the file name must be qualified with a library name. When the physical to-file is created, it is placed in the specified library.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the job is used to locate the physical file or device file. If no library is specified as the current library, QGPL is used.

*name* Specify the name of the library where the physical file or device file is located.

Top

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## To member or label (TOMBR)

Specifies the name of the file member that receives the copied records.

If the to-file is a printer file, \*FIRST must be specified for this parameter.

**\*FIRST**

The first member of the specified file is used.

*name* Specify the name of the physical to-file member, or the label identifier of the tape to-file that receives the records. If a member with the specified name does not already exist in the physical to-file, the copy operation attempts to add a member with the specified name to the file.

Top

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## Replace or add records (MBROPT)

Specifies whether the new records replace or are added to the existing records.

**Note:** If the copy is to an existing physical file, this parameter must specify either \*ADD or \*REPLACE. If the to-file does not exist but CRTFILE(\*YES) is specified, the copy operation assumes MBROPT(\*ADD) for all records copied to the file after it is created, regardless of the value specified on this parameter. The copied records are always physically added to the end of a database file member in the same order that they are retrieved from the open query file.

**\*NONE**

This parameter does not apply to this copy operation. When the to-file is an existing physical file, \*NONE is not allowed; either \*ADD or \*REPLACE must be specified to indicate whether records should be added or replaced in each to-file member used.

**\*ADD** The copied records are added to the existing records in each to-file member that is used.

**\*REPLACE**

The system clears the existing member and adds the new records.

Top

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## Create file (CRTFILE)

Specifies whether a physical file is created to receive the data if the to-file does not exist. If the to-file already exists when this command is started, this parameter is ignored.

- \*NO** The to-file must exist when this command is started. A physical file is not created to receive the data.
- \*YES** If the to-file does not exist, a physical file is created that has the name specified on the **To file (TOFILE)** parameter. If the open query file format contains a user-defined type, datalink, or LOB field type, the physical file created will be an SQL table. In all other instances the to-file created will be a database physical file that is not an SQL table. In addition to the normal copy operation validity checks, the following special conditions must all be true for the copy operation to create a to-file:
- A library name must be specified on the TOFILE parameter. The default value \*LIBL is not allowed.
  - There cannot be an override to a different file or library name. The values specified on this command for the to-file must be used.
  - The user running this command must be authorized to add the file to the TOFILE library and must have operational authority to the Create Physical File (CRTPF) command.

Top

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## Print format (OUTFMT)

Specifies whether records are printed in character format, or in both character and hexadecimal format. This parameter is used only when \*PRINT is specified for the **To file (TOFILE)** parameter.

### \*CHAR

Records are printed in character format.

**\*HEX** Records are printed in both character and hexadecimal format.

Top

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## Number of records to copy (NBRRCDS)

Specifies the number of records copied to the to-file.

**\*END** Records are copied until the end-of-file condition is indicated.

### *1-4294967288*

Specify the number of records to copy. Fewer records are copied if an end-of-file condition occurs before the specified number of records have been copied.

Top

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## Record format field mapping (FMTOPT)

Specifies, when the open query file is copied to a physical to-file, what field-level record format processing (if any) is done. If the to-file is a source physical file, \*CVTSRC must be specified on this parameter. The coded character set identifiers (CCSIDs) for character and DBCS fields in the open query format are determined by the CCSID of the job in which the Open Query File (OPNQRYF) command is run. All CCSIDs other than 65535 are reset to the job CCSID of the OPNQRYF command, unless the OPNQRYF job CCSID is 65535, in which case the CCSIDs are unchanged. If the open query file format and to-file record formats are identical and the to-file is a data physical file, any FMTOPT value except \*CVTSRC can be specified to perform the copy operation.

**Note:** Change the job CCSID to 65535 before running the OPNQRYF command if you plan to use the CPYFRMQRYF command.



## Single values

### \*NONE

No field mapping or field dropping is done during the copy operation. This value is valid only if the open query file and to-file have the same record format, or if the to-file is not a database file. The record formats are the same only if every field exists in both the open query file and to-file formats, and has the same starting position and attributes in both formats. Attributes include CCSIDs, whether or not a field is null-capable, and the date/time format and separator (if the field is a date/time field). Null values are copied if \*NONE is valid and both files are database files.

### \*NOCHK

If the record formats of the open query file and the to-file are different, the copy operation continues despite the differences. Record data is copied directly (left to right) from one file to the other.

### \*CVTSRC

This value is used to copy to a source file. It is valid only when the to-file is a source file. If the to-file is a source file, sequence number and date fields are added, and the open query file record data is copied to the source data part of each to-file record. Null values are ignored and no conversion of date/time data occurs.

## Other values (up to 2 repetitions)

**\*MAP** Fields with the same name in the open query file and to-file record formats are copied, and fields in the to-file that do not exist in the open query file format are set to the default value specified on the DFT keyword for the data description specification (DDS) of the to-file (or zero for numeric fields, blanks for character fields, current date/time for date/time fields, or the null value for null-capable fields). If \*MAP is specified, \*DROP can also be specified. Mapped fields may have different starting positions in the open query file and to-file record formats. \*MAP allows for the conversion of date/time data and for the copying of null values.

### \*DROP

This value must be specified for field-level mapping if any of the field names in the open query file record format do not exist in the to-file format. If \*DROP is specified, \*MAP can also be specified. When \*DROP is specified, all the field names that exist in both record formats must have the same attributes and relative positions in the open query file and to-file record formats, or \*MAP must also be specified.

Top

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## Errors allowed (ERRLVL)

Specifies the maximum number of recoverable read or write errors that are tolerated for the file during the copy operation. The recoverable error count is reset at the beginning of each CPYFRMQRYP operation. If the number of recoverable errors handled is larger than the number specified on the ERRLVL parameter, the copy operation ends and a message is sent.

0 If a recoverable error occurs, the copy operation ends.

### \*NOMAX

No maximum number of errors is specified. All recoverable errors are tolerated. The copy operation continues regardless of the number of recoverable errors found.

### *integer*

Specify the maximum number of recoverable errors that is allowed for the copy operation. If more errors occur than the value specified here, the copy operation ends.

Top

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## Examples

### Example 1: Building a File with a Subset of Records

```
OPNQRYF FILE(CUSTOMER/ADDRESS) QRYSLT('STATE *EQ "TEXAS"')
:
CPYFRMQRYF FROMOPNID(ADDRESS) TOFILE(TEXAS/ADDRESS)
          CRTFILE(*YES)
```

These commands create a file from the CUSTOMER/ADDRESS file containing records that have a value of Texas in the STATE field.

### Example 2: Printing Records Based on Selection

```
OPNQRYF FILE(FILEA) QRYSLT('CITY *EQ "CHICAGO"')
:
CPYFRMQRYF FROMOPNID(FILEA) TOFILE(*PRINT)
```

These commands print all records from FILEA where the value of the CITY field is Chicago.

### Example 3: Copying a Subset of Records to a Diskette

```
OPNQRYF FILE(FILEB) QRYSLT('FIELDB *EQ "10"') OPNID(MYID)
:
CPYFRMQRYF FROMOPNID(MYID) TOFILE(DISK1)
```

These commands copy to a diskette file all records from FILEB where the value of FIELDB is 10.

### Example 4: Creating a Copy of the Output from a Dynamic Join

Assume a user wants to create a physical file with the format and data of FILEA and FILEB. Assume the files contain the following fields:

FILEA	FILEB	JOINAB
-----	-----	-----
Cust	Cust	Cust
Name	Amt	Name
addr		Amt

```
OPNQRYF FILE(FILEA FILEB) FORMAT(JOINAB)
          JFLD((FILEA/CUST FILEB/CUST))
          MAPFLD((CUST 'FILEA/CUST')) OPNID(QRYFILE)
:
CPYFRMQRYF FROMOPNID(QRYFILE) TOFILE(MYLIB/FILEC)
          CRTFILE(*YES)
```

These commands join FILEA and FILEB and save a copy of the results in a new physical file MYLIB/FILEC. The format of the file will be like JOINAB. The file will contain the data from the join of FILEA and FILEB using the Cust field. File FILEC in library MYLIB can be processed like any other physical file with CL commands (for example, Display Physical File Member (DSPPFM)) and utilities (for example, Query/400).

Top

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## Error messages

### \*ESCAPE Messages

**CPF2816**

File &1 in &2 not copied because of error.

**CPF2817**

Copy command ended because of error.

**CPF2858**

File attributes not valid for printed output.

**CPF2859**

Shared open data path not allowed.

**CPF2864**

Not authorized to file &1 in library &2.

**CPF2875**

Wrong file member or label opened.

**CPF2883**

Error creating file &1 in library &2.

**CPF2888**

Member &3 not added to file because of error.

**CPF2909**

Error clearing member &3 in file &1 in &2.

**CPF2949**

Error closing member &3 in file &1 in &2.

**CPF2952**

Error opening file &1 in library &2.

**CPF2971**

Error reading member &3 in file &1.

**CPF2972**

Error writing to member &3 in file &1.

**CPF2975**

Error while reading from keyed file.

**CPF2976**

Number of errors greater than ERRLLV value.

**CPF3140**

Initialize or copy of member &2 canceled.

**CPF3143**

Increments not allowed for member &2.

**CPF3148**

New records need too much space for member &2.

**CPF3150**

Data base copy failed for member &2.

**CPF9212**

Cannot load or unload DDM file &2 in &3.



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## Copy From Stream File (CPYFRMSTMF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy From Stream File (CPYFRMSTMF) command copies the data in a stream file to either a database file member or a save file. Optional conversion of the data and reformatting is performed when copying a database file member. This command cannot be used to copy to or from a database file member on a remote system. Any overrides in effect for the database file member or the save file are not used by this command.

This command can operate on regular files and on the /dev/null character special file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

For more information about integrated file system commands, see the Integrated file system topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** The sequence numbers in the resulting database file member may be out of order. If a function will be used that requires the sequence numbers to be ordered, use the Reorganize Physical File Member (RGZPFM) command on the member, with the SRCOPT(\*SEQNBR) parameter specified.

### Restrictions:

- The database-member-path-name must be of the form **name.object-type**. For example, /QSYS.LIB/LIBA.LIB/FILEA.FILE/MBRA.MBR is the form required by the QSYS.LIB file system.
- The save-file-path-name must be of the form **name.object-type**. For example, /QSYS.LIB/LIBA.LIB/SAVEFILEA.FILE is the form required by the QSYS.LIB file system.
- The following authorities are required:
  - Execute (\*X) authority to directories in the path name prefix of the database file, save file, stream file or conversion table.
  - Read (\*R) authority to the stream file.
  - Write and execute (\*WX) authority to the database file. Additionally, if MBROPT(\*NONE) or MBROPT(\*REPLACE) is specified, then object management (\*OBJMGT) authority is also required to the database file.
  - Add (\*ADD) authority to the database member's library if the database member does not already exist.
  - Read, write, and execute (\*RWX) and object management (\*OBJMGT) authority to the save file if the save file already exists.
  - Read, write, and execute (\*RWX) authority to the save file's library if the save file does not already exist.
  - If a conversion table was specified, read (\*R) authority to the conversion table.

Top

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## Parameters

Keyword	Description	Choices	Notes
FROMSTMF	From stream file	<i>Path name</i>	Required, Positional 1

Keyword	Description	Choices	Notes
TOMBR	To file member or save file	<i>Path name</i>	Required, Positional 2
MBROPT	Member option	* <u>NONE</u> , *ADD, *REPLACE	Optional
CVTDTA	Data conversion options	* <u>AUTO</u> , *TBL, *NONE	Optional
STMFCSSID	Stream file CCSID	1-65533, * <u>STMF</u> , *PCASCII	Optional
DBFCCSID	Database file CCSID	1-65533, * <u>FILE</u>	Optional
TBL	Conversion table	<i>Path name</i>	Optional
ENDLINFMT	End of line characters	* <u>ALL</u> , *CRLF, *LF, *CR, *LFCR, *FIXED	Optional
TABEXP	Tab character expansion	* <u>YES</u> , *NO	Optional
STMFCODPAG	Stream file code page	1-32767, * <u>STMF</u> , *PCASCII	Optional

Top

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## From stream file (FROMSTMF)

Specifies the path name of the stream file from which data is copied. This command can operate on files of type \*STMF and on the /dev/null character special file.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## To file member or save file (TOMBR)

Specifies the path name of the database file member or save file to which data is copied. All directories in the path name must exist.

When copying to a save file, the save file will be created if it does not exist.

When copying to a database file member, the database file must exist. If the member does not exist, it is created. The file may be either a source physical file or a program-described physical file. Source physical files with multiple data fields are not supported.

If the database file is a source physical file, a sequence number and a date stamp of zeros is added to each record as it is copied to the database file member.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## Member option (MBROPT)

Specifies whether the copy operation replaces, adds, or fails to copy the records if the object specified on the **To file member or save file (TOMBR)** parameter already exists. If the object does not exist, it is created.

### \*NONE

No records are copied and the operation will fail if the object exists.

**\*ADD** The copied records are added to the end of the existing records.

### **\*REPLACE**

The copied records replace the existing records.

Top

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## Data conversion options (CVTDTA)

Specifies the process for converting the data from the stream file to the database file member.

This parameter is ignored when copying to a save file.

### \*AUTO

The data is converted during the copy operation using the coded character set identifier (CCSID) of the stream file and the database file CCSID.

**\*TBL** The data is converted using a conversion table. Only single-byte character sets are supported. The conversion table must be specified on the **Conversion table (TBL)** parameter.

### **\*NONE**

Only insertion of the sequence numbers and date stamp to source physical files and the optional removal of specified line-formatting characters from the stream file are performed. Stream file CCSID to database file CCSID conversion of other characters is not performed.

Top

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## Stream file CCSID (STMFCCSID)

Specifies the method of obtaining the stream file coded character set identifier (CCSID) used for data conversion.

This parameter is ignored when copying to a save file, or when CVTDTA(\*TBL) or CVTDTA(\*NONE) is specified.

This parameter can not be specified with the **Stream file code page (STMFCODPAG)** parameter.

### \*STMF

The CCSID associated with the stream file specified on the **From stream file (FROMSTMF)** parameter is used for data conversion.

### **\*PCASCI**

Use the CCSID associated with the stream file specified on the **From stream file (FROMSTMF)** parameter to compute a CCSID in the Microsoft Windows encoding scheme (x4105). This CCSID is used if data conversion is requested. This option allows data to be converted properly if the data was created using Microsoft Windows. ("Microsoft" and "Windows" are registered trademarks of Microsoft Corporation)

For example, if the CCSID associated with the stream file is 37, the stream file data is instead assumed to be in CCSID 1252 for data conversion.

1-65533

Specify the stream file CCSID to be used for data conversion.

Top

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## Database file CCSID (DBFCCSID)

Specifies the method of obtaining the database file CCSID used for data conversion.

This parameter is ignored when copying to a save file.

**\*FILE** The database file CCSID is used, unless it is 65535. If the database file CCSID is 65535, and the file is not a program-described file, the operation will fail. If the database file CCSID is 65535, and the file is a program-described file, the default job CCSID is used.

1-65533

Specify the database file coded character set identifier (CCSID). This option is valid only if the database file CCSID is 65535 or is the same as the CCSID specified. Otherwise, the operation will fail.

Top

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## Conversion table (TBL)

Specifies the path name of the conversion table to be used to convert data from the stream file to the database file member.

**Note:** This parameter is required and valid only if CVTDTA(\*TBL) is specified. This parameter is ignored when copying to a save file.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## End of line characters (ENDLINFMT)

Specifies the end-of-line characters which are recognized in the stream file during copying of records.

This parameter is ignored when copying to a save file.

All records are transformed to a fixed-length format as they are copied to the database file. The fixed-length is equal to the length of the database file records to which they are copied. If one of the end-of-line character options is selected (ENDLINFMT(\*FIXED) is not specified) the stream file is read up to first occurrence of that character. The end-of-line character is stripped from the record. The remainder of the record is padded with blanks. The data is converted to the destination data format (if specified) and copied to the database file member. If a record is too long to fit in the fixed-length format, it is truncated, then copied.

**\*ALL** Any single or double character combination of carriage-return and line-feed is appended to the end of each line.



**\*CRLF**

Carriage-return followed by line-feed is appended to the end of each line.

**\*LF**

Line-feed is appended to the end of each line.

**\*CR**

Carriage-return is appended to the end of each line.

**\*LFCR**

Line-feed followed by carriage-return is appended to the end of each line.

**\*FIXED**

Text lines in the stream file are considered fixed-length records of the same length as the database file records to which they are to be copied. Any encountered CR, LF, or EOF characters are not stripped from the stream file. Tab expansion is not allowed and the **Tab character expansion (TABEXP)** parameter is not valid. If the last record in the stream file does not fill the database file record, that record is padded with blanks.

If CVTDTA(\*AUTO) is specified, the converted data will not be allowed to contract or expand. Therefore, the encoding schemes of the stream file CCSID and database file CCSID must be compatible. For example, if a stream file had a single-byte encoding scheme and the database file had a double-byte encoding scheme, the command will fail.

Top

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## Tab character expansion (TABEXP)

Specifies whether embedded tab characters are expanded to blanks up to the next eight-character tab position.

This parameter is ignored when copying to a save file.

**\*YES**

Tab characters are not copied to the database file member. Any encountered tab character is expanded with blanks up to the next tab position.

**Note:** If ENDLINFMT(\*FIXED) is specified, \*YES is not a valid value for this parameter.

**\*NO**

Tab characters are copied to the database file member. No tab expansion occurs.

Top

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## Stream file code page (STMFCODPAG)

Specifies a code page value to be used when determining the stream file coded character set identifier (CCSID) to be used for data conversion.

This parameter is ignored when copying to a save file.

This parameter can not be specified with the **Stream file CCSID (STMFCCSID)** parameter.

**Note:** This parameter is replaced by STMFCCSID but the STMFCODPAG parameter can still be used. However, because this parameter may be removed in a later release, use the STMFCCSID parameter whenever possible.

**\*STMF**

If this value is specified, no code page processing is performed. The CCSID of the stream file specified on the **From stream file (FROMSTMF)** parameter is used for data conversion.

**\*PCASCII**

Use the CCSID associated with the stream file specified on the **From stream file (FROMSTMF)** parameter to compute a CCSID in the Microsoft Windows encoding scheme (x4105). This CCSID is used if data conversion is requested. This option allows data to be converted properly if the data was created using Microsoft Windows. ("Microsoft" and "Windows" are registered trademarks of Microsoft Corporation)

For example, if the CCSID associated with the stream file is 37, the stream file data is instead assumed to be in CCSID 1252 for data conversion.

#### 1-32767

Specify the stream file code page. This value is then used to compute a stream file CCSID used for data conversion.

Top

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## Examples

### Example 1: Copying Data from a Stream File to a Database File Using Automatic Conversion

```
CPYFRMSTMF FROMSTMF('STMF.TXT')
            TOMBR('/QSYS.LIB/MYLIB.LIB/MYFILE.FILE/MYMBR.MBR')
```

This command copies the data contained in stream file STMF.TXT in the current working directory to database file member /QSYS.LIB/MYLIB.LIB/MYFILE.FILE/MYMBR.MBR. Automatic conversion of data takes place using the stream file data CCSID and the database file CCSID. Any single-byte or double-byte character combination of CR and LF will be recognized as the end of a line in the stream file, and any embedded tabs are expanded with blanks out to the next tab position since these are the default values. If member MYMBR.MBR does not exist in the file, it is created. If member MYMBR.MBR exists, no records are copied since MBROPT(\*NONE) is the default value.

### Example 2: Copying Data from a Stream File to a Database File Using a Conversion Table

```
CPYFRMSTMF FROMSTMF('FINANCE.NEW')
            TOMBR('/QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR')
            CVTDTA(*TBL) STMFCCSID(437)
            TBL('/QSYS.LIB/QUSRSYS.LIB/TBL1.TBL')
            ENDLINFMT(*CRLF) TABEXPN(*NO)
```

This command copies the data in stream file FINANCE.NEW in the current working directory to the database file member /QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR. The data in the stream file is converted using the user-specified conversion table TBL1.TBL contained in the directory /QSYS.LIB/QUSRSYS.LIB. The double character combination of CR and LF is recognized as the end of a stream file line. Any embedded tabs are not expanded with blanks. The only line-formatting characters that will be recognized are the CR and LF pairing as represented in CCSID 437, specified on the STMFCCSID parameter.

### Example 3: Copying Data from a Stream File to a Data-base File Without Data Conversion

```
CPYFRMSTMF FROMSTMF('FINANCE.NEW')
            TOMBR('/QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR')
            CVTDTA(*NONE) ENDLINFMT(*FIXED)
```

This command copies the data in stream file 'FINANCE.NEW' in the current working directory to the database file member /QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR without data conversion. The

stream file data lines are considered to be fixed length records of the same length as the database file records. Because TABEXPN(\*NO) is specified, any tab characters encountered are not expanded to blanks during copying. If the encoding scheme of the stream file and the database file are incompatible, the copy ends with an error message.

#### **Example 4: Copying Data from a Stream File to a Save File**

```
CPYFRMSTMF FROMSTMF ('/MYDIR/SOFTWARE')  
           TOMBR ('/QSYS.LIB/PACKAGE.LIB/SOFTWARE.FILE')
```

This command copies the data contained in stream file /MYDIR/SOFTWARE to the save file /QSYS.LIB/PACKAGE.LIB/SOFTWARE.FILE. The stream file data is copied as fixed-length records with length of 528. No line-formatting characters are inserted, nor is any data conversion performed.

Top

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## **Error messages**

### **\*ESCAPE Messages**

#### **CPFA085**

Home directory not found for user &1.

#### **CPFA095**

Stream file not copied.

Top



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## Copy From Tape (CPYFRMTAP)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy From Tape (CPYFRMTAP) command copies records from a tape file to an output file or to the printer.

The from-file must be a tape file, but the to-file can be a physical file, tape file, or program-described printer file. \*PRINT can be specified for the **To file (TOFILE)** parameter to produce a printed listing of the records in the tape from-file.

This command offers a subset of the parameters available on the Copy File (CPYF) command, along with more specific tape-oriented parameters.

If you need parameters that are not available on this command, you can either use overrides for the from-file or to-file, or use the Copy File (CPYF) command.

Only a single tape file (sequence number) can be copied with one call of this command.

The to-file must exist when the command is started. This command does not create the to-file, but it does add a member to an existing physical file if the member does not already exist in the to-file.

### Restrictions:

- A file's open data path (ODP) cannot be shared with any other program in the job (routing step) during the copy operation.

Top

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## Parameters

Keyword	Description	Choices	Notes
FROMFILE	Tape file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Tape file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
TOFILE	To file	Single values: *PRINT Other values: <i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: To file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
FROMSEQNBR	Sequence number	1-16777215, *TAPF, *NEXT	Optional
FROMLABEL	Tape label	<i>Character value, *TAPF, *NONE</i>	Optional
TOMBR	Member	<i>Name, *FROMLABEL, *FIRST</i>	Optional
FROMDEV	Device	Single values: *TAPF Other values (up to 4 repetitions): <i>Name</i>	Optional
FROMREELS	Copy from reels	<i>Element list</i>	Optional
	Element 1: Label processing type	*TAPF, *SL, *NL, *NS, *BLP, *LTM	
	Element 2: Number of reels	1-255, *TAPF	
FROMRCLEN	Record length	<i>Integer, *TAPF, *CALC</i>	Optional

Keyword	Description	Choices	Notes
FROMENDOPT	End of tape option	* <u>TAPF</u> , *REWIND, *UNLOAD, *LEAVE	Optional
MBROPT	Replace or add records	* <u>NONE</u> , *ADD, *REPLACE	Optional
OUTFMT	Print format	* <u>CHAR</u> , *HEX	Optional
FROMVOL	Volume identifier	Single values: * <u>TAPF</u> , *NONE Other values (up to 50 repetitions): <i>Character value</i>	Optional
FROMBLKLEN	Block length	1-524288, * <u>TAPF</u> , *CALC	Optional
FROMRCDBLK	Record block type	* <u>TAPF</u> , *F, *FB, *V, *VB, *D, *DB, *VS, *VBS, *U	Optional
NBRRCDSD	Number of records to copy	<i>Unsigned integer</i> , * <u>END</u>	Optional

Top

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## Tape file (FROMFILE)

Specifies the tape file that contains the records that are copied.

This is a required parameter.

### Qualifier 1: Tape file

*name* Specify the name of the tape device file.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

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## To file (TOFILE)

Specifies the file that receives the copied records.

This is a required parameter.

### Single values

#### \*PRINT

The output is printed with the job's spooled output.

### Qualifier 1: To file

*name* Specify the name of the physical file or device file that receives the copied records.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

---

## Sequence number (FROMSEQNBR)

Specifies the sequence number of the tape file that is copied.

If the tapes for the from-file have standard labels, the file sequence number is read from the first header label of the data file. When bypass label processing has been specified for the from-file (that is, FROMREELS(\*BLP) has been specified on this command or on the command used to describe the tape file) or when tapes with standard labels are not being used, the system uses the tape marks and the value specified on this parameter to locate the correct data file that is copied.

**\*TAPF** The sequence number specified in the tape file or override is used to indicate the file that is copied.

**\*NEXT**

The next file on the tape is processed. If the tape is currently positioned before the first file, the first file on the tape is processed.

**1-16777215**

Specify the sequence number of the file on the tape that is copied. For a labeled tape file, the label specified in the FROMLABEL parameter must be found at this sequence number.

Top

---

## Tape label (FROMLABEL)

Specifies the data file identifier of a file that is copied from the tape. The file identifier specified must be found at the sequence number specified for the **Sequence number (FROMSEQNBR)** parameter.

**\*TAPF** The file identifier in the tape file description or override is used to identify the tape file that is copied.

**\*NONE**

The file identifier is not specified. Any label identifier is accepted.

*data-file-identifier*

Specify the name of the file label that is copied from the tape from-file. A label can be up to 17 characters in length.

*generic\*-data-file-identifier*

Specify the generic name of the file label that is copied from the tape from-file.

Top

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## Member (TOMBR)

Specifies the database file member or tape file label in the to-file that receives the copied data records. If \*PRINT is specified for the **To file (TOFILE)** parameter, either \*FIRST or \*FROMLABEL must be specified on this parameter.

**\*FROMLABEL**

The file specified by the FROMLABEL and FROMSEQNBR parameters is copied into a corresponding member or label in the to-file.

The name of the from-file tape label identifier is used as the member or label identifier for a physical to-file or tape to-file. If the to-file is a tape file, the from-file label identifier is used without modification.

If the to-file is a database file, the last 10 characters that appear before all consecutive blanks for the from-file label are used for the to-file member name. If the last 10 characters that appear before all consecutive blanks are not valid, then the characters to the right of the last period (.) are used for the to-file member name.

If the from-file is a nonlabeled tape file, then a to-file member or label name is created that corresponds to the data file on the tape from-file in the form of CPYnnnn, where nnnn is the tape sequence number of the data-file. If the to-file is a tape device file, the label in the device file description or override is used.

#### **\*FIRST**

The first member in the physical to-file receives the copied records.

*name* Specify the name of the physical to-file member, or tape to-file label identifier, that receives the copied records. If the tape label identifier is longer than 10 characters or contains special characters, it must be specified on a CRTTAPF, CHGTAPF, or OVRTAPF command before starting the CPYFRMTAP command.

Top

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## **Device (FROMDEV)**

Specifies up to four tape devices, one virtual tape device, or one media library device from which the tape from-file is copied.

### **Single values**

**\*TAPF** The value specified in the tape file is used to indicate the devices used.

### **Other values (up to 4 repetitions)**

*name* Specify the names of up to four tape devices, one virtual tape device, or one media library device used when copying records from the from-file. The order in which the device names are specified is the order in which tapes on the devices are successively read. Each device must already be known on the system by a device description.

Top

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## **Copy from reels (FROMREELS)**

Specifies the type of labeling used on the tape reels that contain the from-file. The number of reels value specified on this parameter is not a limiting value for tape with standard labels. For standard-label tape, the labels on the tape indicate an end-of-file condition that limits the number of volumes processed. The number of reels information is used only if there is no list of volume identifiers specified and if the from-file is either \*NL, \*NS or \*BLP. When the number of reels value is used, the volume identifiers on the volumes that are placed in the device are ignored if the from-file resides on labeled tapes. In that case, the order in which the reels are placed in the device must be checked by the operator.

### **Element 1: Label processing type**

**\*TAPF** The value specified in the tape file or override for the from-file is used for label-type values.

**\*SL** Each tape volume has standard labels.



- \*NL** Each tape volume has no labels. Tape marks are used to indicate the end of each data file on the tape.
- \*NS** Each tape volume has nonstandard labels. Only a single data file can exist on a nonstandard tape reel (volume).
- \*BLP** Standard label processing is bypassed when copying the from-file volumes.
- \*LTM** The volumes of the from-file have no labels but have a single leading tape mark before the first file on the tape.

## Element 2: Number of reels

- \*TAPF** The number-of-reels value that is used is the value specified in the tape file or override for the from-file.
- 1-255** Specify the maximum number of reels used. If the next reel is not on the device when the end of a tape is reached, a message is sent to the operator requesting that the next tape be placed in the device.

Top

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## Record length (FROMRCLEN)

Specifies (in bytes) the length of the records contained in the tape from-file. This parameter should be specified in this command or a tape file command for \*NS, \*NL, \*BLP, or \*LTM tapes, or for the tapes that do not have HDR2 labels. For \*SL tapes, the record length is obtained from the label itself.

**\*TAPF** The record length defined in the tape file or override is used.

### **\*CALC**

The system calculates the value to use.

### **1-32767**

Specify a value to be used as the tape from-file record length. The record length must be consistent with the block length and record block format parameter values.

Top

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## End of tape option (FROMENDOPT)

Specifies the positioning operation that is performed automatically on the last from-file tape volume when the tape device file is closed. For a multi-volume tape from-file, this parameter applies to the last reel (volume) only; all intermediate volumes are copied with \*UNLOAD as the positioning attribute.

**\*TAPF** The tape is repositioned according to the value specified in the device file or override.

### **\*REWIND**

The tape is rewound, but not unloaded.

### **\*UNLOAD**

The tape is automatically rewound and unloaded after the operation ends.

### **\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

Top

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## Replace or add records (MBROPT)

Specifies whether the new records replace or are added to the existing records.

### \*NONE

This parameter does not apply to this copy operation. When the to-file is an existing physical file, \*NONE is not allowed.

**\*ADD** The system adds the new records to the end of the existing records.

### \*REPLACE

The system clears the existing member and adds the new records.

Top

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## Print format (OUTFMT)

Specifies whether records are printed in character format, or in both character and hexadecimal format. This parameter is used only when \*PRINT is specified for the **To file (TOFILE)** parameter.

### \*CHAR

Records are printed in character format.

**\*HEX** Records are printed in both character and hexadecimal format.

Top

---

## Volume identifier (FROMVOL)

Specifies one or more volume identifiers of the tapes used when copying records from the (tape) from-file. These volumes must be placed in the devices in the same order as the identifiers are specified (and in the same order as the device names are specified in the FROMDEV parameter).

### Single values

**\*TAPF** The value specified in the tape file or override is used.

### \*NONE

No tape volume identifiers are specified for this file. No volume checking is done beyond verifying that the correct label type volume is placed in the tape device.

### Other values (up to 50 repetitions)

#### *character-value*

Specify up to 50 volume identifiers from which the tape file is copied. The identifiers of volumes must be entered in the same order in which they are placed in the devices.

Top

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## Block length (FROMBLKLEN)

Specifies the length (in bytes) of data blocks transferred from the tape from-file. This parameter should be specified for nonstandard or nonlabeled tapes, for tapes whose label processing has been bypassed, or for tapes that do not have HDR2 labels. For standard labeled tapes, the block length is obtained from the label itself, and this parameter is ignored.

**\*TAPF** The block length value from the tape file or override is used.

## \*CALC

The system calculates the value to use.

## 18-524288

Specify the block length of each block in the tape from-file. The block length must be consistent with record length and record block format values.

Top

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## Record block type (FROMRCDBLK)

Specifies the record block format and blocking attribute of records in the tape from-file.

**\*TAPF** The record block format value from the tape file or override is used.

**\*F** Fixed-length, deblocked records in either EBCDIC or ASCII format are used.

**\*FB** Fixed-length, blocked records in either EBCDIC or ASCII format are used.

**\*V** Variable-length, deblocked records in EBCDIC format are used.

**\*VB** Variable-length, blocked records in EBCDIC format are used.

**\*D** Variable-length, deblocked records in ASCII type D format are used.

**\*DB** Variable-length, blocked records in ASCII type D format are used.

**\*VS** Variable-length spanned records are used.

**\*VBS** Variable-length, spanned blocked records are used.

**\*U** Records in an undefined format are used.

Top

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## Number of records to copy (NBRRCDS)

Specifies the number of records copied to the to-file.

**\*END** Records are copied until the end-of-file condition is indicated.

## 1-4294967288

Specify the number of records to copy. Fewer records are copied if an end-of-file condition occurs before the specified number of records have been copied.

Top

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## Examples

### Example 1: Adding Copied Records to Existing Records

```
CPYFRMTAP FROMFILE(QTAPE) TOFILE(DEPT/YTDSALES)
           FROMSEQNBR(3) FROMLABEL(DAILY)
           FROMDEV(QTAPE1) MBROPT(*ADD)
```

This command copies records from tape by using the tape device file QTAPE. The data file at sequence number 3 labeled DAILY on device QTAPE1 is copied. The specific attributes of the data file, such as record length and record block format, is determined by the system from the label on the tape. The records are added to the existing records in the member DAILY, which is implied by the parameter default of (TOMBR(\*FROMLABEL), in file YTDSALES, which is in library DEPT.

## Example 2: Replacing Existing Records

```
CPYFRMTAP  FROMFILE(QTAPE)  TOFILE(MYLIB/KEN)  FROMSEQNBR(2)
           FROMDEV(QTAPE1)  FROMREELS(*NL 1)  FROMRCDLEN(100)
           FROMBLKLEN(1000)  FROMRCDBLK(*FB)  TOMBR(*FIRST)
           MBROPT(*REPLACE)
```

This command copies records from tape by using the tape device file QTAPE. Records in the data file at sequence number 2 of a nonlabeled tape file on tape device QTAPE1, with fixed-length records that are blocked 1000 bytes (or 10 records) to a block, are copied, and replace the existing records in the first member in file KEN, which is in library MYLIB.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2816

File &1 in &2 not copied because of error.

#### CPF2817

Copy command ended because of error.

#### CPF2818

\*FROMMBR value is not allowed on TOMBR parameter.

#### CPF2858

File attributes not valid for printed output.

#### CPF2859

Shared open data path not allowed.

#### CPF2875

Wrong file member or label opened.

#### CPF2888

Member &3 not added to file because of error.

#### CPF2909

Error clearing member &3 in file &1 in &2.

#### CPF2949

Error closing member &3 in file &1 in &2.

#### CPF2952

Error opening file &1 in library &2.

#### CPF2971

Error reading member &3 in file &1.

#### CPF2972

Error writing to member &3 in file &1.

#### CPF9212

Cannot load or unload DDM file &2 in &3.

Top

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## Copy DBCS Font Table (CPYIGCTBL)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy DBCS Font Table (CPYIGCTBL) command copies part or all of a double-byte character set (DBCS) font table from system storage to tape, diskette, or physical file; or from tape, diskette, or physical file into the font table. Copying a DBCS font table from tape, diskette, or physical file into a font table also puts its definition in the system. DBCS font tables are objects and can be saved and restored.

DBCS font tables contain the images, in a given dot matrix, of the double-byte extension characters used on the system. The system refers to the tables when printing and displaying these characters. There are separate tables for each character image matrix used by devices attached to the system.

Consider the following before entering this command:

- The diskette used in the copy operation must be in the \*DATA format. The i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> has instructions on initializing diskettes in the \*DATA format.
- The system creates the DBCS font table in addition to copying it when you specify OPTION(\*IN), if the following is true:
  - The specified table does not already exist in the system.
  - The tape or diskette that you are copying the table from contains all of the DBCS characters supplied with your system.
  - SELECT(\*ALL) or SELECT(\*SYS) was specified.
- Consider copying a DBCS font table to tape or diskette before deleting that table from the system.

**Restriction:** A physical file used to save and restore table information must have a minimum record length of 74 bytes.

Top

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## Parameters

Keyword	Description	Choices	Notes
IGCTBL	DBCS font table	Name, QIGC2424, QIGC2424K, QIGC2424C, QIGC2424S, QIGC3232, QIGC3232S	Required, Positional 1
OPTION	Copy option	*OUT, *IN	Required, Positional 2
DEV	Device	Name, *FILE	Required, Positional 3
LABEL	File label	Name, *IGCTBL	Optional
SELECT	Select images	*ALL, *SYS, *USER, *RANGE	Optional
RANGE	Range of images	Element list	Optional
	Element 1: From user code	Character value, *FIRST	
	Element 2: To user code	Character value, *LAST	
RPLIMG	Replace user images	*NO, *YES	Optional
VOL	Volume identifier	Values (up to 10 repetitions): Character value, *MOUNTED	Optional
EXPDTE	File expiration date	Date, *PERM	Optional

Keyword	Description	Choices	Notes
SEQNBR	Sequence number	1-9999, *SEARCH, *END	Optional
ENDOPT	End of tape option	*REWIND, *LEAVE, *UNLOAD	Optional
FILE	File	<i>Qualified object name</i>	Optional
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
MBR	Member	<i>Name</i>	Optional

Top

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## DBCS font table (IGCTBL)

Specifies the name of the double-byte character set (DBCS) font table being copied. Choose one of the following table names:

### QIGC2424

The Japanese DBCS font table is used for displaying and printing extension characters in a 24 by 24 dot matrix image.

### QIGC2424C

The Traditional Chinese DBCS font table is used for printing extension characters in a 24 by 24 dot matrix image.

### QIGC2424K

The Korean DBCS font table is used for printing extension characters in a 24 by 24 dot matrix image.

### QIGC2424S

The Simplified Chinese DBCS font table is used for printing extension characters in a 24 by 24 dot matrix image.

### QIGC3232

The Japanese DBCS font table is used for displaying and printing extension characters in a 32 by 32 dot matrix image.

### QIGC3232S

The Simplified Chinese DBCS font table is used for printing extension characters in a 32 by 32 dot matrix image.

### QIGCrrccl

Specify the name of the DBCS font table to be copied. The name must always be in the format QIGCrrccl, where *rr* is the table row matrix size, *cc* is the table column matrix size, and the letter *l* is an optional language identifier.

Top

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## Copy option (OPTION)

Specifies how to copy the double-byte character set (DBCS) font tables, either from the system to diskette, tape, or physical file; or from diskette, tape, or physical file into the system.

\*OUT The specified DBCS font table is copied to diskette, tape, or physical file.

\*IN The specified DBCS font table is copied from diskette, tape, or physical file to the system.

Top

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## Device (DEV)

Specifies the name of the diskette or tape device or physical file used for the copy function.

**\*FILE** Specifies that the DBCS font table is saved to or restored from a physical file.

**\*device-name**

Specifies the name of the diskette or tape that the table is saved to or restored from. The device name must already be known on the system by a device description.

Top

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## File label (LABEL)

Specifies the name of the data file on diskette or tape that contains (or will contain) the double-byte character set (DBCS) font table. When copying the table into the system, the label identifies the file that exists on diskette or tape. When copying the table to diskette or tape, the label identifies the file that is created on diskette or tape.

**\*IGCTBL**

The diskette or tape data file name is the same as the DBCS font table name (without the first character).

***data-file-identifier***

Specify the name (8 characters maximum for diskette and 17 maximum for tape, starting with an alphabetic character) of the data file.

Top

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## Select images (SELECT)

Specifies which portion of the double-byte character set (DBCS) font table is copied.

**\*ALL** All IBM-supplied and user-defined double-byte characters are copied.

**\*SYS** Only IBM-supplied double-byte characters are copied.

**\*USER**

Only user-defined double-byte characters are copied.

**\*RANGE**

Only user-defined double-byte characters that fall within the range specified for the **Range of images (RANGE)** parameter are copied.

Top

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## Range of images (RANGE)

Specifies the range of user-defined characters to be copied from.

The DBCS codes and numbers that can be specified for range values are listed in tables at the end of this parameter description. Tables are provided for the Japanese, Korean, traditional Chinese, and simplified Chinese languages.

The first value identifies the first character to be copied.

The possible Starting Character to be Copied values are:

### \*FIRST

The system starts copying with the first user-defined double-byte character in the table.

#### *from-user-character*

Specify the 4-character double-byte character set (DBCS) code, or the 5-character DBCS number.  
The system starts copying with the specified DBCS code or number.

The possible Ending Character to be Copied values are:

The second value identifies the last character to be copied.

### \*LAST

The system stops copying with the last user-defined character found.

#### *to-user-character*

Specify the 4-character DBCS code, or the 5-character DBCS number. This causes the system to stop copying with the specified DBCS code or number.

Following are tables that list the valid codes and numbers to specify for starting and ending values of user-defined character ranges.

### **Japanese DBCS Codes for User-Defined Characters**

6941 - 69FE	6A41 - 6AFE	6B41 - 6BFE
6C41 - 6CFE	6D41 - 6DFE	6E41 - 6EFE
6F41 - 6FFE	7041 - 70FE	7141 - 71FE
7241 - 72FE	7341 - 73FE	7441 - 74FE
7541 - 75FE	7641 - 76FE	7741 - 77FE
7841 - 78FE	7941 - 79FE	7A41 - 7AFE
7B41 - 7BFE	7C41 - 7CFE	7D41 - 7DFE
7E41 - 7EFE	7F41 - 7FFE	

### **Japanese DBCS Numbers for User-Defined Characters**

10561 through 10750	10817 through 11006
11073 through 11262	11329 through 11518
11585 through 11774	11841 through 12030
12097 through 12286	12353 through 12542
12609 through 12798	12865 through 13054
13121 through 13310	13377 through 13566
13633 through 13822	13889 through 14078
14145 through 14334	14401 through 14590
14657 through 14846	14913 through 15102
15169 through 15358	15425 through 15614
15681 through 15870	15937 through 16126
16193 through 16382	

### **Korean DBCS Codes for User-Defined Characters**

D441 - D4FE	D541 - D5FE	D641 - D6FE
D741 - D7FE	D841 - D8FE	D941 - D9FE
DA41 - DAFE	DB41 - DBFE	DC41 - DCFE
DD41 - DDFE		

### **Korean DBCS Numbers for User-Defined Characters**



37953 through 38142	38209 through 38393
38465 through 38654	38721 through 38910
38977 through 39166	39233 through 39422
39489 through 39678	39745 through 39934
40001 through 40190	40257 through 40446

### Traditional Chinese DBCS Codes for User-Defined Characters

D041 - D0FE	D141 - D1FE	D241 - D2FE
D341 - D3FE	D441 - D4FE	D541 - D5FE
D641 - D6FE	D741 - D7FE	D841 - D8FE
D941 - D9FE	DA41 - DAFE	DB41 - DBFE
DC41 - DCFE	DD41 - DDFE	

### Traditional Chinese DBCS Numbers for User-Defined Characters

36929 through 37118	37185 through 37374
37441 through 37630	37697 through 37886
37953 through 38142	38209 through 38398
38465 through 38654	38721 through 38910
38977 through 39166	39233 through 39422
39489 through 39678	39745 through 39934
40001 through 40190	40257 through 40446

### Simplified Chinese DBCS Codes for User-Defined Characters

7641 - 76FE	7741 - 77FE
7841 - 78FE	7941 - 79FE
7A41 - 7AFE	7B41 - 7BFE
7C41 - 7CFE	7D41 - 7DFE
7E41 - 7EFE	7F41 - 7FFE

### Simplified Chinese DBCS Numbers for User-Defined Characters

13889 through 14078	14145 through 14334
14401 through 14590	14657 through 14846
14913 through 15102	15169 through 15358
15425 through 15614	15681 through 15870
15937 through 16126	16193 through 16382

Top

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## Replace user images (RPLIMG)

Specifies whether user-defined double-byte characters in the specified table are replaced with those found on tape or diskette. Specify this value only when copying from tape or diskette to the system.

**\*NO** The system does not replace user-defined double-byte characters in the table stored in the system with those found on tape or diskette.

**\*YES** The system replaces user-defined double-byte characters in the table stored in the system with those found on tape or diskette.

Top

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## Volume identifier (VOL)

Specifies one or more volume identifiers used by the file.

You can enter multiple values for this parameter.

### \*MOUNTED

The volume currently placed in the device is used.

### *volume-identifier*

Specify the identifiers of one or more diskettes or tapes in the order in which they are placed in a tape or diskette unit and used in the copy operation.

Top

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## File expiration date (EXPDATE)

Specifies the expiration date. The files cannot be overwritten until the expiration date. The expiration date must be later than or equal to the current date.

### \*PERM

The data file is protected permanently.

### *expiration-date*

Specify the date after which the file is no longer protected. The date must be specified in the job-date format.

Top

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## Sequence number (SEQNBR)

Specifies (only when tape is used) which sequence number is used as the starting point for the copy operation.

**\*END** The system copies the table after the last sequence number on the tape when copying from the system to tape.

### **\*SEARCH**

The tape that is in the tape unit is searched for a data file with a name that compares with that specified for the **File label (LABEL)** parameter. When a match is found, the table is copied to the system. The file search starts with the first data file beyond the current tape position.

### *file-sequence-number*

Specify the sequence number of the file to be used for the copy operation.

Top

---

## End of tape option (ENDOPT)

Specifies the operation that is automatically performed on the tape volume after the operation ends. If more than one volume is included, this parameter applies only to the last tape volume used; all other tape volumes are rewound and unloaded when the end of the tape is reached.

### \*REWIND

The tape is automatically rewound, but not unloaded, after the operation has ended.

### **\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

## \*UNLOAD

The tape is automatically rewound and unloaded after the operation ends.

Top

---

## File (FILE)

Specifies the name of the existing physical file that contains the (DBCS) font table.

The name of the physical file can be qualified by the following library value:

### *library-name*

Specify the name of the library to be used.

### *physical-file-name*

Specify the name of the physical file.

Top

---

## Member (MEMBER)

Specifies the name of the existing physical file member that the table is saved to, or restored from.

Top

---

## Examples

```
CPYIGCTBL  IGCTBL(QIGC2424)  OPTION(*OUT)
           LABEL(*IGCTBL)  DEV(QDKT)
```

This command causes the system to copy the complete Japanese DBCS font table QIGC2424 from the system to the diskette. The name of the label on the diskette is IGC2424.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF8181

DBCS font table &4 damaged.

#### CPF8416

DBCS font table &1 not updated and no images copied.

#### CPF8417

Error found in RANGE keyword.

#### CPF8418

Data file &2 cannot be used to copy DBCS font table &1.

#### CPF8419

DBCS font table &1 not created and no images copied.

#### CPF8420

CPYIGCTBL command ended due to error.

**CPF8421**

DBCS font table &1 not found.

**CPF8422**

Not able to use DBCS font table &1.

**CPF8423**

Error found in keyword IGCTBL.

**CPF8426**

Device &1 either not found, or not valid for command.

**CPF8427**

DBCS font table &1 not migrated.

[Top](#)

---

## Copy Library (CPYLIB)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy Library (CPYLIB) command copies the contents of a library to a new library. If the new library does not exist, the command optionally creates it before the copy.

All copied objects are created in the same auxiliary storage pool (ASP) as the new library. Any objects that already exist in the new library remain in the new library after the new objects are copied.

**Note:** If the new library is created by this command:

- The new library is created in the same ASP as the existing library.
- The library type, create authority and create object auditing values of the existing library are copied to the new library.
- The public authority of the new library is the same as the create authority for the QSYS library. The create authority for the QSYS library can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority for the QSYS library is changed with the Change Library (CHGLIB) command after the new library is created, the new authority will not affect the public authority for the new library.
- The private authorities for the existing library are not copied to the new library.
- You can use the Grant Object Authority (GRTOBJAUT) command specifying the existing library for the **Reference object (REFOBJ)** parameter to copy authorities from the existing library to the new library.
- The owner of the new library is either the user profile of the user who issues the command or the group profile if the user profile of the user who issues the command is a member user profile that has specified that the group profile should be the owner.
- The new library is not secured by an authorization list even if the existing library was secured by an authorization list.
- The journal inherit rules for the existing library are not copied to the new library.  
Use the Display Library Description (DSPLIBD) command to display journal information for the library. Refer to the Start Journal Library (STRJRNLIB) command for more information about journaling a library.

### Restrictions:

- Only object types supported by the Create Duplicate Object (CRTDUPOBJ) command can be copied. The restrictions for the CRTDUPOBJ command also apply to this command.
- If this command is interrupted prior to completion, the results are unpredictable.
- If another job is processing any of the objects in the library specified for the **Existing library (FROMLIB)** parameter, the results may be unpredictable. For example:
  - Objects created in the existing library after the copy starts are not copied.
  - If objects are deleted from the existing library after the copy starts, a user of this command gets an error message.
  - If objects in the existing library are in use or are locked by another job, the copy may not be successful.
- Other jobs should not attempt to use objects in the library specified for the **New library (TOLIB)** parameter until the copy is complete.

Top

---

## Parameters

Keyword	Description	Choices	Notes
FROMLIB	Existing library	<i>Name</i>	Required, Positional 1
TOLIB	New library	<i>Name</i>	Required, Positional 2
CRTLIB	Create library	<u>*YES</u> , *NO	Optional
DATA	Duplicate data	<u>*YES</u> , *NO	Optional
CST	Duplicate constraints	<u>*YES</u> , *NO	Optional
TRG	Duplicate triggers	<u>*YES</u> , *NO	Optional
FILEID	Duplicate file identifiers	<u>*NO</u> , *YES	Optional

Top

---

### Existing library (FROMLIB)

Specifies the existing library to be copied.

This is a required parameter.

*name* Specify the name of the existing library to be copied.

Top

---

### New library (TOLIB)

Specifies the new library to which objects will be copied from the existing library.

This is a required parameter.

*name* Specify the name of the library to which objects will be copied.

Top

---

### Create library (CRTLIB)

Specifies whether the new library should be created.

\*YES The new library will be created by this command before the contents of the existing library are copied to it. If the new library already exists, an error message will be issued.

\*NO The new library should not be created. If the new library does not exist, an error message will be issued.

Top

---

### Duplicate data (DATA)

Specifies whether the data records in database physical files or save files in the existing library are copied to the newly-created object in the new library. Members of physical files are copied whether or not the data contained in them is copied. The specified value is not used for objects which are not database physical files or save files.

**\*YES** The data records in the members of database physical files or save files in the existing library are copied to the new object in the new library.

**Note:** The relative record numbers in the new file are the same as those in the original file.

**\*NO** The data records in the members of database physical files or save files in the existing library are not copied to the new object in the new library.

Top

---

## Duplicate constraints (CST)

Specifies whether any constraints associated with database physical files in the existing library are copied to the newly-created files in the new library. The specified value is not used for objects which are not database physical files.

**\*YES** The constraints associated with a database physical file in the existing library are copied to the newly-created file in the new library.

**\*NO** The constraints associated with a database physical file in the existing library are not copied to the newly-created file in the new library.

Top

---

## Duplicate triggers (TRG)

Specifies whether any triggers associated with database files in the existing library are copied to the newly-created files in the new library. The specified value is not used for objects which are not database files.

**Note:** There are special considerations of which to be aware relating to the duplication of triggers. For example, the duplication will differ depending on whether or not the trigger program associated with the existing file was in the same library as the existing file. For additional information, see the Database category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**\*YES** The triggers associated with a database file in the existing library are copied to the newly-created file in the new library.

**\*NO** The triggers associated with a database file in the existing library are not copied to the newly-created file in the new library.

Top

---

## Duplicate file identifiers (FILEID)

Specifies whether the file level and member level identifiers for a database file in the existing library will be used for the newly-created file in the new library. The specified value is not used for objects which are not database files.

**\*NO** The file level and member level identifiers for a database file in the existing library will not be used for the newly-created file in the new library. The file level and member level identifiers for the newly-created file will be generated by the system; for example, 1070224092922.

**\*YES** The file level and member level identifiers for a database file in the existing library will be used for the newly-created file in the new library. Having two database files with the same file level and member level identifiers can impact database operations. This value should only be used when an exact duplicate database file is expected.

---

## Examples

### Example 1: Copying the Contents of a Library to a New library After Creating the New Library

```
CPYLIB FROMLIB(MYLIB) TOLIB(NEWLIB)
```

This command copies the contents of library MYLIB into library NEWLIB after creating library NEWLIB. The data records, constraints, and triggers associated with a database physical file in library MYLIB will be copied to the database physical file created in library NEWLIB. New file level and member level identifiers will be generated for each database file created in library NEWLIB. This means that the file level and member level identifiers for a database file created in library NEWLIB will not be the same as the file level and member level identifiers for the database file in library MYLIB from which it was copied.

### Example 2: Copying the Contents of a Library to an Existing Library

```
CPYLIB FROMLIB(MYLIBA) TOLIB(MYLIBB) CRTLIB(*NO) +
      DATA(*YES) CST(*NO) TRG(*NO) FILEID(*YES)
MONMSG MSGID(CPF2358)
```

This command copies the contents of library MYLIBA into existing library MYLIBB. All copied objects are created in the same auxiliary storage pool (ASP) as library MYLIBB. Any objects that already exist in library MYLIBB will not be copied from library MYLIBA and those objects will remain in library MYLIBB after other new objects are copied. The data records in a database physical file in library MYLIBA will be copied to the database physical file created in library MYLIBB. The constraints and triggers associated with a database file in library MYLIBA will not be copied to the database file created in library MYLIBB. The file level and member level identifiers for each database file created in library MYLIBB will be the same as the file level and member level identifiers for the database file in library MYLIBA from which it was copied.

The MONMSG command allows you to ignore escape message CPF2358 which may be signalled if all objects in library MYLIBA cannot be copied to library MYLIBB. One reason an object cannot be copied is if the object already exists in library MYLIBB.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2358

Library &1 not copied or partially copied.

#### CPF2365

FROMLIB and TOLIB parameters cannot specify the same library.

Top



## Copy Optical (CPYOPT)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Copy Optical (CPYOPT) command copies a specific file, all files, new files, or changed files in a specified directory to another directory or to another optical volume. This command also allows you to:

- Create a directory in which to copy the files.
- Copy all subdirectories and their files for a specified directory.
- Replace an existing file with the same name.

If the from-volume or the to-volume is a backup optical volume, the names of the directories, the subdirectories, and the files do not change during the copy operation. The creation and modification dates and times of a directory, a subdirectory, or a file also do not change during the copy operation.

**Restriction:** To use this command you must have \*USE authority to the authorization list securing the volume being copied (FROMVOL) and \*CHANGE authority to the authorization list securing the new volume (TOVOL).

Top

### Parameters

Keyword	Description	Choices	Notes
FROMVOL	From volume identifier	<i>Element list</i>	Required, Positional 1
	Element 1: Volume	<i>Character value</i>	
	Element 2: Volume type	<b>*PRIMARY</b> , *BACKUP	
FROMPATH	From path	<i>Character value</i>	Required, Positional 2
TOVOL	To volume identifier	<i>Element list</i>	Required, Positional 3
	Element 1: Volume	<i>Character value</i> , *FROMVOL	
	Element 2: Volume type	<b>*PRIMARY</b> , *BACKUP	
TOPATH	To path	<i>Character value</i> , <b>*FROMPATH</b>	Optional
SLTFILE	Select files to copy	<b>*CHANGED</b> , *NEW, *ALL	Optional
CPYSUBDIR	Copy subdirectories	<b>*NO</b> , *YES	Optional
CRTDIR	Create directory	<b>*NO</b> , *YES	Optional
ALWCPYOPP	Allow copy to opposite side	<b>*NO</b> , *YES	Optional
COPYTYPE	Copy option	<b>*IOP</b> , *SYSTEM	Optional
FROMTIME	Starting date and time	<i>Element list</i>	Optional
	Element 1: Starting date	<i>Date</i> , <b>*BEGIN</b>	
	Element 2: Starting time	<i>Time</i> , <b>*AVAIL</b>	

Top

---

## From volume identifier (FROMVOL)

Specifies the volume identifier and the type of the optical volume that contains the directories and the files being copied.

### Element 1: Volume

#### *volume-identifier*

Specify the identifier of the volume that contains the directories and files being copied.

### Element 2: Volume type

#### \*PRIMARY

The optical volume is a primary volume.

#### \*BACKUP

The optical volume is a backup volume.

Top

---

## From path (FROMPATH)

Specifies the path name of the directory or file being copied from the from-volume. If the path name is a directory, all files in the specified directory are copied. If the path name is a file, only that file is copied.

Top

---

## To volume identifier (TOVOL)

Specifies the volume identifier and the type of the optical volume to which the directories and the files are being copied.

### Element 1: Volume

#### \*FROMVOL

The volume identifier is the same as the identifier of the optical volume from which the the objects are copied.

#### *volume-identifier*

Specify the name of the optical volume to which the objects are copied.

### Element 2: Volume type

#### \*PRIMARY

The optical volume is a primary volume.

#### \*BACKUP

The optical volume is a backup volume. You can use a new backup volume or a backup volume which has previously been used as the volume to which objects are copied. For more information about backup volumes, refer to the Optical Support, SC41-4310 book.

Top

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## To path (TOPATH)

Specifies the path name of the file to be written or the path name of the directory to receive the new file on the to-volume beginning with the root directory of the volume.

### \*FROMPATH

The path name is the same as the path name of the files or directories being copied from the from-volume.

### 'path-name'

Specify the path name of the directory to receive the copied files or the path name of the file to be written.

Top

---

## Select files to copy (SLTFILE)

Specifies how the files or directories are selected for copying. If files are not copied based on the SLTFILE value specified, it is not considered an error condition. The files will be considered 'not eligible to copy' in the completion message but the command may still complete without errors.

### \*CHANGED

The file is copied if the file on the from-volume has a changed date and time later than that of the file on the to-volume. Two sets of dates and times determine if a file has changed: either the date and time the file was last changed, or the date and time the file attributes were last changed. These dates and times can be displayed by specifying DATA(\*FILATR) on the Display Optical (DSPOPT) command.

**\*ALL** All files are copied. The files that exist on the to-volume are replaced even if the dates are the same.

**\*NEW** The files are copied only if they do not exist on the to-volume.

Top

---

## Copy subdirectories (CPYSUBDIR)

Specifies whether to copy the files in the subdirectories.

**\*NO** Subdirectories and files in any subdirectories are not copied.

**\*YES** The files in the subdirectories are copied. The subdirectories are created on the to-volume if they do not exist. The newly created subdirectories have the same name as they did on the from-volume, even though the parent directory name can be different.

A check is made prior to the copy operation to ensure that any resulting new path name does not exceed the maximum path name length. A check is also made to ensure that you do not attempt to copy all subdirectories of a directory to a subdirectory of that directory on the same volume.

Top

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## Create directory (CRTDIR)

Specifies whether or not the last directory of the to-path is created if it does not exist on the to-volume. The existence of all elements of the to-path, except for the last element, are verified prior to the start of the CPYOPT request.

**Note:** If either the to-volume or from-volume was initialized as an optical volume whose type is backup, this parameter is ignored.

**\*NO** The last directory of the to-path will not be created if it does not exist on the to-volume.

**\*YES** The last directory of the to-path will be created if it does not exist on the to-volume. This

parameter refers only to the directory to which files or directories are copied and does not apply to subdirectories under that directory. The CPYSUBDIR parameter controls whether subdirectories are created.

Top

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## Allow copy to opposite side (ALWCPYOPP)

Specifies whether to allow copying files or directories from a volume on one side of an optical cartridge to the opposite side of the optical cartridge.

**Note:** System performance is degraded when copying large amounts of data to the opposite side of an optical cartridge.

**\*NO** The copy operation is not attempted if the to-volume is on the opposite side of the from-volume. You can use this value to prevent inadvertent copying to the opposite side of an optical cartridge.

**\*YES** The copy operation is attempted if the to-volume is on the opposite side of the from-volume.

**Note:** This value is not valid if either the from-volume or to-volume optical cartridge was initialized as an optical volume whose type is backup.

Top

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## Copy option (COPYTYPE)

Specifies the type of processing to be used for the copy request.

**\*IOP** The input/output processor (IOP) copies the data from one volume to another with minimal data movement. If two volumes are required, two drives in the optical media library are allocated for the duration of the copy operation.

**Note:** Specifying COPYTYPE(\*IOP) provides the best performance for the copy request; however, it can also adversely affect interactive performance of requests to other volumes in the optical media library because two optical drives in the optical media library are allocated for the duration of the copy.

**\*SYSTEM**

The system copies the data using available resources. This type of processing is automatically used when:

- Only one drive is operable
- The two volumes are in separate optical media libraries
- The two volumes are on the opposite side of the same optical cartridge
- The media format of either volume is Universal Disk Format (UDF)
- The coded character sets of the volumes are different

This option is recommended if interactive requests will be made to volumes in the optical media library during the copy operation.

Top

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## Starting date and time (FROMTIME)

Specifies a starting date and time used to determine if a file or directory is selected for copying. All files or directories that have been created or changed, or whose attributes have changed, on or after the starting date and time are selected for copying. This parameter is ignored if copying a single file or when copying from a backup volume to a primary volume.

You can determine when a file was last created or changed by:

1. Specifying DATA(\*FILATR) on the Display Optical (DSPOPT) command.
2. Using the hierarchical file system (HFS) API program QHFRTVAT. The standard attribute, QWRDTTMM, is the file last changed date and time. The extended attribute, OPT.CHGATDTTMM, is the attribute last changed date and time.

### Element 1: Starting date

#### \*BEGIN

All dates found are used. All the files and directories are selected for copying.

#### *start-date*

Specify a date to be used as a starting point. All files created or modified on or after the start date are selected.

The date must be entered in the format specified by the system values, QDATFMT, and, if separators are used, QDATSEP.

### Element 2: Starting time

#### \*AVAIL

All available times for the starting date are used.

#### *start-time*

Specify a time to use as the starting time or the starting date. The time separator is defined by the system value QTIMSEP. separator as follows:

- With a time separator, specify a string of 5 or 8 digits, where the time separator for the job separates the hours, minutes, and seconds. If you issue this command from the command line, the string must be enclosed in apostrophes. If a time separator other than the separator specified for your job is used, this command fails.
- Without a time separator, specify a string of 4 or 6 digits (hhmm or hhmmss) where **hh** = hours, **mm** = minutes, and **ss** = seconds. Valid values for **hh** range from 00 through 23. Valid values for **mm** and **ss** range from 00 through 59.

Top

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## Examples

### Example 1: Copying All Files in All Directories

```
CPYOPT FROMVOL(VOL01) FROMPATH('/') TOVOL(VOL02)
        CPYSUBDIR(*YES) SLTFILE(*ALL) CRTDIR(*YES)
```

This command copies all files in all directories and subdirectories from the optical volume VOL01 to the optical volume VOL02. Directories are created on volume VOL02 if they do not exist. If the files already exist on volume VOL02, they are replaced.

### Example 2: Copying Changed Files

```
CPYOPT FROMVOL(VOL01) FROMPATH('/DIR1/DIR2') TOVOL(VOL02)
```

This command copies all changed files in the directory /DIR1/DIR2 to the same files on the optical volume VOL02.

### Example 3: Copying Files From a Backup to a Primary Volume

```
CPYOPT FROMVOL(VOL01BACKUP *BACKUP) FROMPATH('/DIR1')
TOVOL(VOL02) CPYSUBDIR(*YES)
```

This command copies all files and subdirectories in the directory /DIR1 on the optical backup volume VOL01BACKUP to the same files on the primary optical volume VOL02.

Top

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## Error messages

### \*ESCAPE Messages

#### OPT0147

SLTFILE value not allowed for operation.

#### OPT0149

CPYSUBDIR(\*YES) not allowed with FROMPATH value.

#### OPT0152

Specified start time not allowed with FROMTIME(\*BEGIN).

#### OPT1105

File is read only.

#### OPT1115

File not found.

#### OPT1120

File already exists.

#### OPT1125

File is in use.

#### OPT1129

Operation not allowed to file opened for Expanding Buffer I/O.

#### OPT1130

File name specified is a reserved file name.

#### OPT1135

Request failed because number of open files is at the limit.

#### OPT1140

Unexpected error occurred during file processing.

#### OPT1185

Cannot access held optical file.

#### OPT1205

Directory not found.

#### OPT1212

Directory in use.

#### OPT1220

File or directory name already exists.

#### OPT1224

Path length exceeds the maximum of 256 bytes.

#### OPT1255

File is corrupted.

- OPT1261**  
Active file found on volume &1.
- OPT1305**  
Optical volume &1 is read only.
- OPT1315**  
Optical volume &1 is write protected.
- OPT1317**  
Directory name is too long.
- OPT1320**  
Optical volume &1 in use.
- OPT1325**  
Optical volume format not recognized.
- OPT1330**  
Optical volume not found or not useable.
- OPT1331**  
Optical volume &1 not found.
- OPT1340**  
Optical volume &1 not initialized.
- OPT1344**  
Optical file name not valid.
- OPT1345**  
No free space available on media.
- OPT1346**  
Operation not allowed to volume located in a remote optical device.
- OPT1350**  
Write operation failed to optical volume &1.
- OPT1360**  
Media directory corrupted on optical volume &1.
- OPT1460**  
Optical volume &1 is not in an optical device.
- OPT1462**  
Operation not completed, optical volume is not a backup volume.
- OPT1463**  
Operation not completed, optical volume is not a primary volume.
- OPT1530**  
&1 does not represent a valid optical device.
- OPT1555**  
Optical device &1 in use.
- OPT1605**  
Media or device error occurred.
- OPT1640**  
Error occurred reading files or directories.
- OPT1790**  
Operation not allowed or conflicts with another request.

- OPT1795**  
Error accessing directory attributes.
- OPT1805**  
Error accessing optical volume index file.
- OPT1810**  
Error accessing optical directory index file.
- OPT1813**  
Unexpected error occurred.
- OPT1815**  
Internal program error occurred.
- OPT1820**  
Internal error occurred on optical device &1.
- OPT1821**  
Error occurred on optical device &1.
- OPT1825**  
Optical indexes are incorrect for optical device &1.
- OPT1860**  
Request to optical device &1 failed.
- OPT1861**  
No device description configured for resource &1.
- OPT1862**  
No active device description for resource &1.
- OPT1863**  
Optical libraries need to be reclaimed.
- OPT1872**  
Optical request timed out or was cancelled.
- OPT2001**  
&1 files copied; &2 files or directories failed; &8 files not eligible to copy.
- OPT2004**  
Copy request ended abnormally. &1 files copied.
- OPT2005**  
No files found in directory.
- OPT2006**  
Directory path length too long.
- OPT2007**  
TOVOL on opposite side of FROMVOL.
- OPT2008**  
Copy request is not allowed.
- OPT2009**  
Copy not permitted from backup volume.
- OPT2010**  
Copy not permitted to backup volume.
- OPT2015**  
File failed to copy.



- OPT2028**  
Copy to backup not allowed for optical volumes specified.
- OPT2029**  
TOVOL on opposite side of FROMVOL
- OPT2040**  
Error accessing backup control file.
- OPT2301**  
Internal system object in use.
- OPT2420**  
Not authorized to optical volume &2.
- OPT2422**  
Not authorized to file or directory.
- OPT7740**  
User not authorized to object &2 in library &3 type &4.

Top



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## Copy Performance Collection (CPYPFRCOL)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy Performance Collection (CPYPFRCOL) command creates a copy of a performance collection.

Top

---

### Parameters

Keyword	Description	Choices	Notes
FROMCOL	From collection	Name, <u>*SELECT</u>	Optional, Positional 1
FROMLIB	From library	Name, <u>QPFRDATA</u>	Optional, Positional 2
TOCOL	To collection	Name, <u>*FROMCOL</u>	Optional
TOLIB	To library	Name, <u>*FROMLIB</u>	Optional
COLTYPE	Collection type	Single values: *ALL Other values (up to 10 repetitions): <i>Character value</i> , <u>*CSFILE</u>	Optional

Top

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### From collection (FROMCOL)

Specifies the performance collection to be copied.

#### \*SELECT

Lists all collections available in the specified library so the user can select performance collections to copy.

**Note:** This value is valid only when the job that copies the performance collection is submitted interactively.

*name* Specify the performance collection to be copied.

Top

---

### From library (FROMLIB)

Specifies the library where the performance collections are located.

#### QPFRDATA

The IBM-supplied performance data library, QPFRDATA, is where the performance collections are located.

*name* Specify the name of the library where the performance collections are located.

Top

---

## To collection (TOCOL)

Specifies the name of the performance collection to which the performance data is copied.

### \*FROMCOL

The new performance collection has the same name as the one located in the **From collection (FROMCOL)** parameter. If this is specified, the new performance collection and original performance collection must reside in different libraries.

*name* Specify the name of the performance collection to which the performance data is copied.

Top

---

## To library (TOLIB)

Specifies the library in which the new copy of the performance collection is kept.

### \*FROMLIB

The new performance collection is kept in the same library as the collection from which it is copied.

*name* Specify the name of the library in which the new performance collection is kept.

Top

---

## Collection type (COLTYPE)

Specifies the type of collection to be copied.

### Single values

**\*ALL** All types of performance collections with the same name as the one located in the **From collection (FROMCOL)** parameter are to be copied. This includes file-based collections and object-based collections.

### Other values (up to 10 repetitions)

#### \*CSFILE

Only the Collection Services file-based collections specified in the **From collection (FROMCOL)** parameter are to be copied.

#### **\*CSMGTCOL**

Only the Collection Services object-based collections specified in the **From collection (FROMCOL)** parameter are to be copied.

#### **\*DWFIL**

Only the Disk Watcher file-based collections specified in the **From collection (FROMCOL)** parameter are to be copied.

#### **\*JWFIL**

Only the Job Watcher file-based collections specified in the **From collection (FROMCOL)** parameter are to be copied.

#### **\*PEXFILE**

Only the Performance Explorer file-based collections specified in the **From collection (FROMCOL)** parameter are to be copied.

#### **\*PEXMGTCOL**

Only the Performance Explorer object-based collections specified in the **From collection (FROMCOL)** parameter are to be copied.

*type* Specify the type of collections to be copied.

Valid values depend on the performance collections supported by the system. You can press F4 while prompting this command parameter to see a list of valid collection type values.

Top

---

## Examples

### Example 1: Showing List of Performance Collections

```
CPYPFRCOL
```

This command shows a display for selecting from all of the performance collections in the QPFRDATA library. From this list, the user can select performance collections to copy.

### Example 2: Copying Data

```
CPYPFRCOL FROMCOL(COL1) TOLIB(NEWLIB)
```

This command copies performance collection COL1 in library QPFRDATA to library NEWLIB. The new copy in library NEWLIB keeps the name COL1.

Top

---

## Error messages

### \*ESCAPE Messages

**CPFC731**

Cannot copy performance collection &2.

Top



# Copy Program Temporary Fix (CPYPTF)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Copy Program Temporary Fix (CPYPTF) command copies specified program temporary fixes (PTFs) from tape, optical media, service, or save file to a tape, optical media, or save file. Each PTF contains one or more objects, including programs, which can be loaded by the Load Program Temporary Fix (LODPTF) command and applied to a product by the Apply Program Temporary Fix (APYPTF) command.

## Restrictions:

- This command is shipped with exclude (\*EXCLUDE) public authority. The QPGMR, QSYSOPR, QSRV, and QSRVBAS user profiles are shipped with private authorities to use this command.
- If the PTF being copied does not have a target release or if the specified target release is not a valid save and restore release, the PTF will be copied to the earliest valid save and restore target release for the PTF objects.

Top

## Parameters

Keyword	Description	Choices	Notes
LICPGM	Product	<i>Character value</i>	Required, Positional 1
FROMDEV	From device	<i>Name</i> , *SERVICE, *SAVF	Required, Positional 2
TODEV	To device	<i>Name</i> , *SAVF	Required, Positional 3
SELECT	PTF numbers to select	Single values: *ALL Other values (up to 50 repetitions): <i>Character value</i>	Optional, Positional 4
OMIT	PTF numbers to omit	Values (up to 50 repetitions): <i>Character value</i>	Optional
RLS	Release	<i>Character value</i> , * <u>ONLY</u>	Optional
FROMSAVF	From save file	<i>Qualified object name</i>	Optional
	Qualifier 1: From save file	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , * <u>LIBL</u> , * <u>CURLIB</u>	
FROMSEQNBR	From tape sequence number	1-16777215, * <u>SEARCH</u>	Optional
FROMENDOPT	From end of media option	* <u>REWIND</u> , * <u>LEAVE</u> , * <u>UNLOAD</u>	Optional
FROMPATHID	From path identifier	1-9999, * <u>FIRST</u> , * <u>SELECT</u>	Optional
TOVOL	Volume identifier	<i>Character value</i> , * <u>MOUNTED</u>	Optional
TOSEQNBR	To tape sequence number	1-16777215, * <u>END</u>	Optional
TOENDOPT	To end of media option	* <u>REWIND</u> , * <u>LEAVE</u> , * <u>UNLOAD</u>	Optional
TOSAVF	To save file	<i>Qualified object name</i>	Optional
	Qualifier 1: To save file	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , * <u>LIBL</u> , * <u>CURLIB</u>	
CLEAR	Clear	* <u>NONE</u> , * <u>ALL</u>	Optional
COVER	Copy PTF cover letter	* <u>YES</u> , * <u>NO</u>	Optional

Keyword	Description	Choices	Notes
CVRLTRLNG	Cover letter language	<i>Character value, *ONLY</i>	Optional
DTACPR	Data compression	<i>*DEV, *NO, *YES</i>	Optional

Top

---

## Product (LICPGM)

Specifies the 7-character identifier of the product for which the PTFs are copied.

This is a required parameter.

Top

---

## From device (FROMDEV)

Specifies the device from which the PTFs are copied.

This is a required parameter.

### \*SERVICE

The PTFs sent from the service support system are copied.

\*SAVF The PTFs are copied from a save file.

*name* Specify the name of the tape or optical device from which the PTFs are copied.

Top

---

## To device (TODEV)

Specifies the device to which the PTFs are copied.

This is a required parameter.

\*SAVF The PTFs are copied to a save file.

*name* Specify the name of the tape or optical device to which the PTFs are copied.

Top

---

## PTF numbers to select (SELECT)

Specifies which PTFs are copied. If individual PTFs are specified, a value cannot be specified for the **PTF numbers to omit** (OMIT) parameter.

### Single values

\*ALL All the PTFs are copied. This parameter cannot be specified when a value of \*SERVICE is specified in the **From device** (FROMDEV) parameter.

### Other values (up to 50 repetitions)

#### *character-value*

Specify the PTF number of each programming fix to be copied.



---

## PTF numbers to omit (OMIT)

Specifies that all PTFs except for those specified in this parameter are copied. Specify the PTF numbers of the programming fixes not copied when all the rest are copied. A maximum of 50 PTF numbers can be specified. This parameter cannot be specified if single PTF numbers are specified for the **PTF numbers to select** (SELECT) parameter.

### *character-value*

Specify the PTF number of each programming fix to be omitted (not copied).

---

## Release (RLS)

Specifies the release level of the software product.

### \*ONLY

This value is valid only if one release is installed or supported on the system when FROMDEV(\*SERVICE) is specified or when the FROMDEV parameter is an optical device and only one release of the product exists on the media. If the FROMDEV parameter is a tape device, the release level of the software product on the media is ignored.

### *character-value*

Specify the release level in VxRyMz format where Vx is the version number, Ry is the release number, and Mz is the modification level. The variables x and y can be a number from 0 through 9, and the variable z can be a number from 0 through 9 or a letter from A through Z.

---

## From save file (FROMSAVF)

Specifies the save file from which the PTFs are copied.

**Note:** This parameter is valid only if \*SAVF is specified on the **From device** (FROMDEV) parameter.

### Qualifier 1: From save file

*name* Specify the name of save file.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the job is used to locate the save file. If no library is specified as the current library for the job, the QGPL library is used.

*name* Specify the name of the library where the save file is located.

---

## From tape sequence number (FROMSEQNBR)

Specifies the sequence number on the tape volume from which the PTFs are copied.

**Note:** This parameter is valid only if a tape device name is specified on the **From device** (FROMDEV) parameter.

#### **\*SEARCH**

The tape volume searches for the first PTF file for the licensed program, and then copies that PTF.

#### **1-16777215**

Specify the sequence number where you want to begin to copy the PTF data. This sequence number must exist on the tape.

Top

---

## **From end of media option (FROMENDOPT)**

Specifies the operation that is performed on the tape or optical volume after the copy PTF operation ends. If one or more volumes of tape are involved, this parameter applies only to the last volume.

**Note:** This parameter is valid only if a tape or optical device name is specified on the FROMDEV parameter. For optical devices, \*UNLOAD is the only special value supported, \*REWIND and \*LEAVE will be ignored.

#### **\*REWIND**

The tape is automatically rewound, but not unloaded, after the operation has ended.

#### **\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

#### **\*UNLOAD**

The tape is automatically rewound and unloaded after the operation ends. Some optical devices will eject the volume after the operation ends.

Top

---

## **From path identifier (FROMPATHID)**

Specifies the number that identifies a file on the optical media that contains the PTFs to be copied. The PTF files for each product and release that exist on the optical media have a path identifier number to allow the files to be processed in a specific order. Only the PTFs from the specified path identifier are copied on your system.

**Note:** This parameter is valid only if an optical device name is specified on the **From device** (FROMDEV) parameter.

#### **\*FIRST**

The optical media is searched for the first PTF file for the specified product and release, according to the search dependency specified on the SELECT parameter.

- When a specific PTF identifier is specified on the SELECT parameter, the first occurrence of the specified PTF is copied.
- When \*ALL is specified on the SELECT parameter, the existing PTF file with the lowest path identifier is copied.

#### **\*SELECT**

A list of the PTF files that exist on the optical media that match the product and release is shown. You can select the specific file from which PTFs are copied. This value cannot be selected in a batch environment.

**1-9999** Specify the path identifier number of the existing PTF file from which to copy the PTF data for the product and release.

Top

---

## Volume identifier (TOVOL)

Specifies the volume identifier of the tape or optical volume that receives the copied PTFs.

**Note:** This parameter is valid only if a tape or optical device name is specified on the **To device** (TODEV) parameter.

### \*MOUNTED

The volume currently placed in the device is used.

### *character-value*

Specify the volume identifier of the tape or optical volume.

Top

---

## To tape sequence number (TOSEQNBR)

Specifies the sequence number of the data file that receives the copied PTFs.

**Note:** This parameter is valid only if a tape device name is specified on the **To device** (TODEV) parameter.

**\*END** The PTFs are copied at the end of the tape.

### *1-16777215*

Specify the sequence number of the data file that receives the copied PTFs.

Top

---

## To end of media option (TOENDOPT)

Specifies the operation that is performed on the tape or optical volume after the copy PTF operation ends. If one or more volumes of tape are involved, this parameter applies only to the last volume.

**Note:** This parameter is valid only if a tape or optical device name is specified on the TODEV parameter. For optical devices, **\*UNLOAD** is the only special value supported, **\*REWIND** and **\*LEAVE** will be ignored.

### \*REWIND

The tape is automatically rewound, but not unloaded, after the operation has ended.

### **\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

### **\*UNLOAD**

The tape is automatically rewound and unloaded after the operation ends. Some optical devices will eject the volume after the operation ends.

Top

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## To save file (TOSAVF)

Specifies the save file to which the PTFs are copied.

### Qualifier 1: To save file

*name* Specify the name of the save file.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the job is used to locate the save file. If no current library entry exists in the library list, the QGPL library is used.

*name* Specify the name of the library where the save file is located.

Top

---

## Clear (CLEAR)

Specifies whether uncleared save files encountered while copying the PTFs are automatically cleared.

**Note:** This parameter is valid only if \*SAVF is specified on the **To device** (TODEV) parameter.

### **\*NONE**

An uncleared save file is not automatically cleared.

**\*ALL** An uncleared save file is automatically cleared so the operation can continue.

Top

---

## Copy PTF cover letter (COVER)

Specifies whether to copy the cover letter with the PTF. Cover letters will not be copied if FROMDEV(\*SERVICE) is specified with more than 1 PTF (SELECT parameter).

**\*YES** The cover letter is copied.

**\*NO** The cover letter is not copied.

Top

---

## Cover letter language (CVRLTRLNG)

Specifies the cover letter language of the PTF to be copied. If FROMDEV(\*SERVICE) is specified and there are multiple cover letters for a PTF (multiple languages), specify the language feature code of the cover letter you want to copy.

**Note:** This parameter is valid only if \*YES is specified on the **Copy PTF cover letter** (COVER) parameter.

### **\*ONLY**

The only cover letter associated with the PTF is copied, regardless of the language feature code.

### *character-value*

Specify the language feature code of the PTF cover letter you want to copy. A language feature code can be specified only when \*SERVICE is specified on the FROMDEV parameter.

---

## Data compression (DTACPR)

Specifies whether data compression is used.

- \*DEV** If the save is to tape and the target device supports compression, hardware compression is performed. Otherwise, no data compression is performed.
- \*NO** No data compression is performed.
- \*YES** If the save is to tape and the target device supports compression, hardware compression is performed. If compression is not supported, or if the save data is written to a save file, software compression is performed. If the save is running while other jobs on the system are active and software compression is used, the overall system performance may be affected.

Top

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## Examples

### Example 1: Copying PTFs to a Save File

```
CPYPTF LICPGM(5761SS1) FROMDEV(TAP01)
      TODEV(*SAVF) SELECT(*ALL) TOSAVF(MYLIB/PTFFILE)
```

This command copies all the PTFs from a tape named TAP01 into a save file named PTFFILE for the product 5761SS1.

### Example 2: Copying PTFs from an optical device

```
CPYPTF LICPGM(5761SS1) FROMDEV(OPT01) TODEV(TAP01)
      SELECT(*ALL) FROMPATHID(2) RLS(*ONLY)
```

This command copies all the PTFs for product 5761SS1 that exist in the file with path identifier 0002 from the optical device named OPT01 to the tape device named TAP01.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF35AE

Duplicate PTF &1 found.

#### CPF35CC

Library required for PTF operation already exists.

#### CPF35C2

PTF &1-&2 &3 cannot be included.

#### CPF35C3

PTF &1-&2 cannot be included.

#### CPF35C4

CPYPTF ended abnormally.

**CPF35C6**  
TOVOL parameter must be specified.

**CPF35C7**  
Volume name in FROMDEV device same as TOVOL parameter value.

**CPF35C8**  
PTF file to be copied is not valid.

**CPF35D5**  
Cover letter NLV not valid.

**CPF354C**  
Cannot process PTF files on optical volume.

**CPF354D**  
Device &1 not allowed.

**CPF354F**  
Required PTF file cannot be processed.

**CPF3558**  
Cannot allocate &1 in &3 type \*&2.

**CPF358A**  
Release not valid.

**CPF3586**  
List of PTFs not correct.

**CPF3598**  
PTF function already in process.

**CPF363A**  
Media type of volume not valid for operation.

**CPF363D**  
Multiple cover letters exist for PTF &2-&1 &3.

**CPF363E**  
Cannot write required PTF file to optical volume.

**CPF6602**  
PTF &1-&2 &3 not found.

**CPF9812**  
File &1 in library &2 not found.

**CPF9814**  
Device &1 not found.

Top

---

# Copy PTF Cover Letter (CPYPTFCVR)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy Program Temporary Fix Cover Letter (CPYPTFCVR) command copies program temporary fix (PTF) cover letters from tape or optical media into file QAPZCOVER in library QGPL. Each cover letter contains information such as problem description, correction, and special instructions. Cover letters can then be viewed using the Display PTF Cover Letter (DSPPTFCVR) and Display Program Temporary Fix (DSPPTF) commands.

## Restrictions:

- This command is shipped with exclude (\*EXCLUDE) public authority and the QPGMR, QSYSOPR, QSRV, and QSRVBAS user profiles are shipped with private authorities to use this command.

Top

---

## Parameters

Keyword	Description	Choices	Notes
DEV	Device	<i>Character value</i>	Required, Positional 1
LICPGM	Product	<i>Character value</i> , *ALL, *SUPPTD	Optional, Positional 2
SELECT	PTF numbers to select	Single values: *NOTAPY, *ALL Other values (up to 300 repetitions): <i>Character value</i>	Optional
RLS	Release	<i>Character value</i> , *ALL	Optional
CVROPT	Cover letter option	*NEW, *ADD, *ALL	Optional
ENDOPT	End of media option	*REWIND, *LEAVE, *UNLOAD	Optional

Top

---

## Device (DEV)

Specifies the device that contains the cover letters to be copied.

This is a required parameter.

*name* Specify the name of the tape device or optical device from which the cover letters are copied.

Top

---

## Product (LICPGM)

Specifies the 7-character identifier of the product for which the cover letters are copied.

**\*ALL** The cover letters for all installed or supported products are copied.

**\*SUPPTD**

The cover letters for all supported products are copied.

### *character-value*

Specify the product identifier of the cover letters to be copied.

Top

---

## PTF numbers to select (SELECT)

Specifies which of the cover letters for the specified product are copied.

### Single values

#### \*NOTAPY

All the cover letters of the PTFs for the specified product that are not already applied or superseded are copied.

**\*ALL** All the cover letters for the specified product are copied.

### Other values (up to 300 repetitions)

#### *character-value*

Specify the PTF identification number of the cover letters to be copied. Specific PTF identifiers can be used only if a specific product identifier is specified on the **Product** (LICPGM) parameter.

Top

---

## Release (RLS)

Specifies the release level of the software product.

**\*ALL** Cover letters for all releases of the specified product will be copied.

#### *character-value*

Specify the release level in VxRyMz format where Vx is the version number, Ry is the release number, and Mz is the modification level. The variables x and y can be a number from 0 through 9, and the variable z can be a number from 0 through 9 or a letter from A through Z. A specific release can be used only if a specific product identifier is specified on the **Product** (LICPGM) parameter.

Top

---

## Cover letter option (CVROPT)

Specifies what to do if the cover letter being copied already exists on the system.

**\*NEW** If a cover letter for the PTF already exists on the system in any language feature code, the cover letter will not be copied from the media. If no cover letter for the PTF exists on the system, the cover letter will be copied.

**\*ADD** If a cover letter for the PTF does not exist with the same language feature code, the cover letter will be copied from the media. Otherwise the cover letter will not be copied.

**\*ALL** If a cover letter with the same language feature code already exists on the system, it will be replaced. If no cover letter exists on the system for the language feature code, the cover letter will be copied.

Top



---

## End of media option (ENDOPT)

Specifies the operation that is automatically performed on the tape or optical volume after the PTF operation ends. If one or more volumes of media is involved, this parameter applies only to the last volume.

**Note:** For optical devices, \*UNLOAD is the only special value supported, \*REWIND and \*LEAVE will be ignored.

### \*REWIND

The tape is automatically rewound, but not unloaded, after the operation has ended.

### \*LEAVE

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

### \*UNLOAD

The tape is automatically rewound and unloaded after the operation ends. Some optical devices will eject the volume after the operation ends.

Top

---

## Examples

```
CPYPTFCVR  DEV(OPT01) LICPGM(5761SS1) SELECT(*ALL)
           RLS(V5R4M0)
```

This command copies all cover letters for PTFs that are not applied to product 5761SS1 release V5R4M0 from device OPT01.

Top

---

## Error messages

### \*ESCAPE Messages

#### **CPF354D**

Device &1 not allowed.

#### **CPF3586**

List of PTFs not correct.

#### **CPF358A**

Release not valid.

#### **CPF359D**

No PTFs on device &3 met the selection criteria.

#### **CPF35BE**

Product &1 &3 not supported or installed.

#### **CPF35E0**

Error occurred copying PTF information.

#### **CPF35F1**

Cover letter file &1 in &2 not found.

#### **CPF363C**

No PTF cover letters copied from device &3.

**CPF9814**

Device &1 not found.

**CPF9822**

Not authorized to file &1 in library &2.

**CPF9825**

Not authorized to device &1.

Top

# Copy PTF Group (CPYPTFGRP)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Copy Program Temporary Fix Group (CPYPTFGRP) command copies program temporary fix (PTF) groups from tape, optical, save file, or service, to tape, optical, save file, or service. The PTF group information is copied to the specified device. The PTFs named within the PTF group can also be copied using the CPYPTF parameter. The Work with PTF Groups (WRKPTFGRP) command can be used to display and work with a list of PTF groups on the system.

## Restrictions:

- This command is shipped with exclude (\*EXCLUDE) public authority. The QPGMR, QSYSOPR, QSRV, and QSRVBAS user profiles are shipped with private authorities to use this command.

Top

## Parameters

Keyword	Description	Choices	Notes
PTFGRP	PTF group	Character value, *ALL	Required, Positional 1
FROMDEV	From device	Name, *SERVICE, *SAVF	Required, Positional 2
TODEV	To device	Name, *SERVICE, *SAVF	Required, Positional 3
FROMSAVF	From save file	Qualified object name	Optional
	Qualifier 1: From save file	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
FROMSEQNBR	From tape sequence number	1-16777215, *SEARCH	Optional
FROMENDOPT	From end of media option	*REWIND, *LEAVE, *UNLOAD	Optional
TOVOL	Volume identifier	Character value, *MOUNTED	Optional
TOSEQNBR	To tape sequence number	1-16777215, *END	Optional
TOENDOPT	To end of media option	*REWIND, *LEAVE, *UNLOAD	Optional
TOSAVF	To save file	Qualified object name	Optional
	Qualifier 1: To save file	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
CLEAR	Clear	*NONE, *ALL	Optional
REPLACE	Replace	*LVLGT, *NO, *YES	Optional
PTFGRPLVL	PTF group level	1-99999, *INSTALLED, *LATEST, *ALL	Optional
RELPTFGRP	Copy related PTF groups	*NO, *YES, *INSTALLED, *LATEST	Optional
DTACPR	Data compression	*DEV, *NO, *YES	Optional
CPYPTF	Copy PTFs	*NO, *YES	Optional
RPLSPR	Replace superseded PTFs	*YES, *NO	Optional
COVER	Copy PTF cover letter	Character value, *DFT, *NONE	Optional

Top

---

## PTF group (PTFGRP)

Specifies the PTF group(s) to be copied.

This is a required parameter.

**\*ALL** All PTF groups are copied.

*name* Specify the name of the PTF group to be copied.

Top

---

## From device (FROMDEV)

Specifies the device that contains the PTF groups to be copied.

This is a required parameter.

**\*SERVICE**

The PTF groups are copied from the system. The Work with PTF Groups (WRKPTFGRP) command can be used to display the list of PTF groups on the system.

**\*SAVF** The PTF groups are copied from a save file.

*name* Specify the name of the tape or optical device from which the PTF groups are copied.

Top

---

## To device (TODEV)

Specifies the device to which the PTF groups are copied.

This is a required parameter.

**\*SERVICE**

The PTF groups are copied to the system. The Work with PTF Groups (WRKPTFGRP) command can be used to display the list of PTF groups on the system. TODEV(\*SERVICE) cannot be specified when FROMDEV(\*SERVICE) is specified.

**\*SAVF** The PTF groups are copied to a save file.

*name* Specify the name of the tape or optical device to which the PTF groups are copied.

Top

---

## From save file (FROMSAVF)

Specifies the save file from which the PTF groups are copied.

**Note:** This parameter is valid only if \*SAVF is specified on the **From device** (FROMDEV) parameter.

**Qualifier 1: From save file**

*name* Specify the name of the save file.

**Qualifier 2: Library**

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the job is used to locate the save file. If no library is specified as the current library for the job, the QGPL library is used.

*name* Specify the name of the library where the save file is located.

Top

---

## **From tape sequence number (FROMSEQNBR)**

Specifies the sequence number on the tape volume from which the PTF groups are copied.

**Note:** This parameter is valid only if a tape device name is specified on the **From device** (FROMDEV) parameter.

### **\*SEARCH**

The tape volume is searched for the first media file for the specified PTF group.

### **1-16777215**

Specify the sequence number where you want to begin to copy the PTF data. This sequence number must exist on the tape.

Top

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## **From end of media option (FROMENDOPT)**

Specifies the operation that is performed on the tape or optical volume after the copy operation ends. If one or more volumes of tape are involved, this parameter applies only to the last volume.

**Note:** This parameter is valid only if a tape or optical device name is specified on the FROMDEV parameter. For optical devices, \*UNLOAD is the only special value supported, \*REWIND and \*LEAVE will be ignored.

### **\*REWIND**

The tape is automatically rewound, but not unloaded, after the operation has ended.

### **\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

### **\*UNLOAD**

The tape is automatically rewound and unloaded after the operation ends. Some optical devices will eject the volume after the operation ends.

Top

---

## **Volume identifier (TOVOL)**

Specifies the volume identifier of the tape or optical volume that receives the copied PTF groups.

### **\*MOUNTED**

The volume currently placed in the device is used.

### *character-value*

Specify the volume identifier of the tape or optical volume.

Top

---

## To tape sequence number (TOSEQNBR)

Specifies the sequence number of the data file that receives the copied PTF group.

**Note:** This parameter is valid only if a tape device name is specified on the **To device** (TODEV) parameter.

**\*END** The PTF groups are copied starting at the end of the tape.

**1-16777215**

Specify the sequence number of the data file that receives the first copied PTF group.

Top

---

## To end of media option (TOENDOPT)

Specifies the operation that is performed on the tape or optical volume after the copy operation ends. If one or more volumes of tape are involved, this parameter applies only to the last volume.

**Note:** This parameter is valid only if a tape or optical device name is specified on the **To device** (TODEV) parameter. For optical devices, \*UNLOAD is the only special value supported, \*REWIND and \*LEAVE will be ignored.

**\*REWIND**

The tape is automatically rewound, but not unloaded, after the operation has ended.

**\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

**\*UNLOAD**

The tape is automatically rewound and unloaded after the operation ends. Some optical devices will eject the volume after the operation ends.

Top

---

## To save file (TOSAVF)

Specifies the save file to which the PTF groups are copied.

**Note:** This parameter is valid only if \*SAVF is specified on the **To device** (TODEV) parameter.

**Qualifier 1: To save file**

*name* Specify the name of the save file.

**Qualifier 2: Library**

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the job is used to locate the save file. If no library is specified as the current library for the job, the QGPL library is used.

*name* Specify the name of the library where the save file is located.

Top

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## Clear (CLEAR)

Specifies whether an uncleared save file is automatically cleared while copying the PTF groups. This parameter applies only when `TODEV(*SAVF)` is specified.

### \*NONE

An uncleared save file is not automatically cleared.

**\*ALL** An uncleared save file is automatically cleared so the operation can continue.

Top

---

## Replace (REPLACE)

Specifies what to do if a PTF group being copied already exists on the system.

The number of different levels of a PTF group of the same name that can exist on the system is controlled by the PTF group levels (`PTFGRPLVL`) parameter of the Change Service Attributes (`CHGSRVA`) command. When copying a PTF group, the value specified for the `PTFGRPLVL` parameter indicates the maximum number of different levels of the PTF group that can exist on the system. The lowest levels of the PTF group will automatically be deleted, leaving only the highest levels of the PTF group on the system after the PTF group is copied.

**Note:** This parameter applies only when `TODEV(*SERVICE)` is specified.

### \*LVLGT

Copy an existing PTF group of the same name only when the level of the PTF group being copied is greater than the highest level of the PTF group on the system.

**\*NO** Do not copy the PTF group when a PTF group of the same name already exists on the system, regardless of the levels of the existing PTF group. An error will occur if a PTF group of the same name already exists on the system and `PTFGRP(*ALL)` is not specified.

**\*YES** Always copy the PTF group regardless of the levels of the existing PTF group of the same name. If the level of the PTF group being copied is lower than all other existing levels of the PTF group, it may be automatically deleted if the number of levels of the PTF group on the system exceeds the current value of the `PTFGRPLVL` parameter of the `CHGSRVA` command.

Top

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## PTF group level (PTFGRPLVL)

Specifies the level of the PTF group to copy.

**Note:** This parameter applies only when `*SERVICE` is specified for the **From device** (`FROMDEV`) parameter.

### \*INSTALLED

The latest level of the PTF group that has a status of **Installed** or **Apply at next IPL** is copied. If no levels of the PTF group have a status of **Installed** or **Apply at next IPL**, the latest level of the PTF group that exists on the system is copied.

**\*ALL** All levels of the PTF group are copied.

### \*LATEST

The latest level of the PTF group that exists on the system is copied.

### 1-99999

Specify the level of the PTF group to copy.

---

## Copy related PTF groups (RELPTFGRP)

Specifies whether to copy related PTF groups.

**Note:** This parameter applies only when \*SERVICE is specified for the **From device (FROMDEV)** parameter.

**\*NO** The related PTF groups named within the specified PTF group are not copied.

**\*YES** All levels of the related PTF groups named within the specified PTF group are copied. All levels of the related PTF groups named within related PTF groups are also copied.

### **\*INSTALLED**

The latest level of the related PTF groups named within the specified PTF group that have a status of **Installed** or **Apply at next IPL** are copied. Any related PTF groups named within related PTF groups are also copied. If there is no level of the related PTF group with a status of **Installed** or **Apply at next IPL**, the latest level of the related PTF group that exists on the system is copied.

### **\*LATEST**

The latest level of related PTF groups named within the specified PTF group is copied. Any related PTF groups named within related PTF groups are also copied.

Top

---

## Data compression (DTACPR)

Specifies whether data compression is used.

**\*DEV** If the save is to tape and the target device supports compression, hardware compression is performed. Otherwise, no data compression is performed.

**\*NO** No data compression is performed.

**\*YES** If the save is to tape and the target device supports compression, hardware compression is performed. If compression is not supported, or if the save data is written to a save file, software compression is performed. If the save is running while other jobs on the system are active and software compression is used, the overall system performance may be affected.

Top

---

## Copy PTFs (CPYPTF)

Specifies whether to copy PTFs named within the specified PTF group in addition to the PTF group information.

**Note:** This parameter applies only when \*SERVICE is specified for the **From device (FROMDEV)** parameter and a tape or optical device name is specified for the **To device (TODEV)** parameter.

**\*NO** The PTFs named within the specified PTF group are not copied.

**\*YES** The PTFs named within the specified PTF group are copied. All prerequisite, corequisite, and distribution requisite PTFs for PTFs named within the PTF group are also copied. A PTF is copied only if it is for a supported or installed product and a save file exists on the system for the PTF or a superseding PTF.



---

## Replace superseded PTFs (RPLSPR)

Specifies whether to replace PTFs or requisites of PTFs named within the specified PTF group. A PTF can be replaced if a save file is not found and a superseding PTF with a save file exists on the system. This parameter applies only when CPYPTF(\*YES) is specified.

- \*YES** When copying PTFs, if a PTF or requisite of a PTF named within the specified PTF group does not have a save file, replace the PTF with the latest superseding PTF that has a save file. If a PTF or requisite of a PTF named within the PTF group has a save file, the PTF will be copied regardless of whether the PTF is superseded or has a later superseding PTF.
- \*NO** When copying PTFs, do not replace PTFs that do not have a save file on the system. Save files must exist for all PTFs and requisites of PTFs named within the specified PTF group.

Top

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## Copy PTF cover letter (COVER)

Specifies whether to copy the cover letters with the PTFs.

**Note:** This parameter applies only when \*YES is specified for the **Copy PTFs (CPYPTF)** parameter.

- \*DFT** Cover letters are copied using the default language feature code. If there is only one cover letter for the PTF, it will be copied. If there is more than one cover letter for the PTF, the following criteria will be used to determine which cover letter to copy.

The language feature code that matches the service contact information (WRKCNTINF) will be used.

If no language feature code matches the service contact information, the language feature code that matches the primary language of the operating system will be used.

If no cover letters match the language feature code in the service contact information, or the language feature code of the operating system, no cover letter is copied for the PTF.

- \*NONE** No PTF cover letters are copied.

### *character-value*

Specify the language feature code of the PTF cover letters you want to copy. If a cover letter for the selected language feature code is not available, no cover letter is copied for the PTF.

Top

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## Examples

### Example 1: Copying a PTF Group to a Save File

```
CPYPTFGRP  PTFGRP(SF99100) FROMDEV(*SERVICE) TODEV(*SAVF)
           TOSAVF(MYLIB/MYSAVF)
```

This command copies the latest installed level of PTF group named SF99100 from the system to a save file named MYSAVF in library MYLIB. Related PTF groups named in SF99100 are not copied.

### Example 2: Copying a PTF Group to a Tape

```
CPYPTFGRP  PTFGRP(SF99200) FROMDEV(*SERVICE) TODEV(TAP01)
           TOSEQNBR(1) RELPTFGRP(*YES) CPYPTF(*YES)
```

This command copies the latest installed level of PTF group named SF99200 and all levels of its related PTF groups from the system to the tape mounted in device TAP01 beginning with sequence number 1. All PTFs named within the PTF groups are copied to the tape. Cover letters are copied for the PTFs using the default language feature code.

### Example 3: Copying All PTF Groups from Optical

```
CPYPTFGRP  PTFGRP(*ALL) FROMDEV(OPT01) TODEV(*SERVICE)
           REPLACE(*YES)
```

This command copies all the PTF groups from the volume mounted on optical device OPT01 to the system. Any PTF groups that already exist on the system with the same level are replaced.

### Example 4: Copying a PTF Group from Tape to Save File

```
CPYPTFGRP  PTFGRP(SF99300) FROMDEV(TAP01) TODEV(*SAVF)
           TOSAVF(MYLIB/MYSAVF)
```

This command searches the tape mounted on device TAP01 and copies PTF group SF99300 to save file MYSAVF in library MYLIB.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF35CC

Library required for PTF operation already exists.

#### CPF35D5

Cover letter NLV not valid.

#### CPF354C

Cannot process PTF files on optical volume.

#### CPF354D

Device &1 not allowed.

#### CPF354F

Required PTF file cannot be processed.

#### CPF355D

PTF group does not exist on save/restore media.

#### CPF355E

CPYPTFGRP ended abnormally.

#### CPF355F

TODEV and FROMDEV parameters cannot specify the same device.

#### CPF3598

PTF function already in process.

**CPF36AB**

No PTF groups found.

**CPF36A3**

PTF group &1 level &2 already exists.

**CPF36A4**

PTF group &1 not found.

**CPF36A5**

Information for PTF group &1 not complete.

**CPF36A6**

PTF group name &1 not valid.

**CPF36B8**

PTF &2-&3 &4 cannot be copied without a save file.

**CPF363A**

Media type of volume not valid for operation.

**CPF363E**

Cannot write required PTF file to optical volume.

**CPF9812**

File &1 in library &2 not found.

**CPF9814**

Device &1 not found.

**OPT1660**

Optical device &1 is empty.

Top



# Copy Spooled File (CPYSPLF)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Copy Spooled File (CPYSPLF) command copies the data records in the specified spooled file to a user-defined physical database file. This conversion allows the use of spooled files in applications using microfiche, data communications, or data processing. Print lines that are all blank are not copied. When you copy a spooled file to a physical file, certain information is lost or changed. For example:

- Graphics data is lost.
- Bar code data is lost.

Top

## Parameters

Keyword	Description	Choices	Notes
FILE	Spooled file	<i>Name</i>	Required, Positional 1
TOFILE	To data base file	<i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: To data base file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
JOB	Job name	Single values: * Other values: <i>Qualified job name</i>	Optional
	Qualifier 1: Job name	<i>Name</i>	
	Qualifier 2: User	<i>Name</i>	
	Qualifier 3: Number	000000-999999	
SPLNBR	Spooled file number	1-999999, <u>*ONLY</u> , *LAST, *ANY	Optional
JOBSYSNAME	Job system name	<i>Name, *ONLY, *CURRENT, *ANY</i>	Optional
CRTDATE	Spooled file created	Single values: <u>*ONLY</u> , *LAST Other values: <i>Element list</i>	Optional
	Element 1: Creation date	<i>Date</i>	
	Element 2: Creation time	<i>Time, *ONLY, *LAST</i>	
TOMBR	To member	<i>Name, *FIRST</i>	Optional
MBROPT	Replace or add records	<u>*REPLACE</u> , *ADD	Optional
CTLCHAR	Control character	<u>*NONE</u> , *FCFC, *PRTCTL, *S36FMT	Optional
CHLVAL	Channel values	Single values: <u>*NORMAL</u> Other values (up to 12 repetitions): <i>Element list</i>	Optional
	Element 1: Channel	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12	
	Element 2: Line	1-255	

Top

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## Spooled file (FILE)

Specifies the spooled file that is to be copied to a database file.

This is a required parameter.

*name* Specify the file name of the spooled file to be copied.

Top

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## To data base file (TOFILE)

Specifies a user-defined physical database file to which the spooled records will be copied. If this file does not exist at the time of the copy, the copy will fail.

This is a required parameter.

### Qualifier 1: To data base file

*name* Specify the file name of the physical file to receive the copy.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the job is used to locate the file. If no current library entry exists in the library list, QGPL is used.

*name* Specify the name of the library where the file is located.

Top

---

## Job name (JOB)

Specifies the job that created the spooled file whose data records are to be copied.

### Single values

**\*** The job that issued this command is the job that created the spooled file.

### Qualifier 1: Job name

*name* Specify the name of the job that created the spooled file.

### Qualifier 2: User

*name* Specify the user name that identifies the user profile under which the job is run.

### Qualifier 3: Number

**000000-999999**

Specify the system-assigned job number.

Top

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## Spooled file number (SPLNBR)

Specifies the number of the spooled file, from the job whose data records are to be copied.

\*ONLY

Only one spooled file in the job has the specified file name; therefore, the number of the spooled file is not necessary.

**\*LAST**

The spooled file with the highest number and the specified file name is used.

**\*ANY** The spooled file number is not used to determine which spooled file is used. Use this value when the job system name parameter or the spooled file create date and time parameter is to take precedence over the spooled file number when selecting a spooled file.

**1-999999**

Specify the number of the spooled file whose data records are to be copied.

Top

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## Job system name (JOBSYSNAME)

Specifies the name of the system where the job that created the spooled file (JOB parameter) ran. This parameter is considered after the job name, user name, job number, spooled file name, and spooled file number parameter requirements have been met.

\*ONLY

There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and spooled file create date and time.

**\*CURRENT**

The spooled file created on the current system with the specified job name, user name, job number, spooled file name, spooled file number, and create date and time is used.

**\*ANY** The job system name is not used to determine which spooled file is used. Use this value when the spooled file create date and time parameter is to take precedence over the job system name when selecting a spooled file.

*name* Specify the name of the system where the job that created the spooled file ran.

Top

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## Spooled file created (CRTDATE)

Specifies the date and time the spooled file was created. This parameter is considered after the job name, user name, job number, spooled file name, spooled file number, and job system name parameter requirements have been met.

### Single values

\*ONLY

There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, and job system name.

**\*LAST**

The spooled file with the latest create date and time of the specified job name, user name, job number, spooled file name, spooled file number, and job system name is used.

### Element 1: Creation date

*date* Specify the date the spooled file was created.

### Element 2: Creation time

### \*ONLY

There is one spooled file with the specified job name, user name, job number, spooled file name, spooled file number, job system name, and spooled file create date.

### \*LAST

The spooled file with the latest create time of the specified job name, user name, job number, spooled file name, spooled file number, job system name, and spooled file create date is used.

*time* Specify the time the spooled file was created.

Top

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## To member (TOMBR)

Specifies the name of the file member that receives the copied records.

### \*FIRST

The first member of the specified file is used.

*name* Specify the name of the member of the physical file. If this member does not exist, a member is created and the copy continues.

Top

---

## Replace or add records (MBROPT)

Specifies whether the new records replace or are added to the existing records.

### \*REPLACE

The system clears the existing member and adds the new records.

**\*ADD** The system adds the new records to the end of the existing records.

Top

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## Control character (CTLCHAR)

Specifies which print control characters (if any) are to replace the spooled file's internal print control characters.

### \*NONE

No print control characters are created.

**\*FCFC** Specifies that the first character of every record contains one of the ANSI forms control codes listed in the CL Reference manual. This option may be useful for microfiche production.

### \*PRTCTL

Specifies that the first four characters of every record contains skip- and space-before values useful in high-level language programs. This code can be viewed as SSSL, where SSS is the skip-before line value and L is the space-before value.

### \*S36FMT

Specifies that the format of the records to be copied to a database file is the same as that created on the IBM System/36 for COPYPRT. This value is not allowed for spooled files which exist on primary or secondary auxiliary storage pools.

Top



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## Channel values (CHLVAL)

Specifies a list of channel numbers with their assigned line numbers. Specify this parameter only if \*FCFC is specified on the **Control character (CTLCHAR)** parameter). Channel number refers to a method of determining skipping for reports. Each assigned channel must have a corresponding line number to provide the correct positioning on a report.

### Single values

#### \*NORMAL

Indicates channel 1 is the only assigned channel number. The assigned line number for channel 1 is line 1.

### Other values (up to 12 repetitions)

#### Element 1: Channel

##### *channel-number*

Specify which channels are used to control skipping on a report. The only valid values for this parameter are 1 through 12. Each channel number can be specified only once per Copy Spooled File (CPYSPLF) command.

#### Element 2: Line

**1-255** The line number assigned for the channel number in the same list. The range of valid line numbers is 1 through 255. Each line number can be specified only once per Copy Spooled File (CPYSPLF) command.

Top

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## Examples

### Example 1: Replacing Data

```
CPYSPLF FILE(QPRINT) JOB(PAYROLL01) SPLNBR(4)
        TOFILE(MYFILE) TOMBR(MYMBR) CTLCHAR(*PRTCTL)
```

In this example, file QPRINT (which is the fourth file produced by job PAYROLL01) is copied to member MYMBR of physical file MYFILE (which resides in a library found by searching the library list). The newly copied data replaces all old data in the member because all old records have been cleared. The 4-byte print control code is created.

### Example 2: Adding Data

```
CPYSPLF FILE(QPRINT) TOFILE(MYLIB/MYFILE) JOB(PAYROLL02)
        MBROPT(*ADD) CTLCHAR(*FCFC) CHLVAL((1 3) (4 15))
```

In this example, file QPRINT (the only file of that name left in job PAYROLL02) is copied to the first member of the physical file found in library MYLIB. The newly copied data is added to data existing in the member. The FCFC 1-byte print control character is used and takes advantage of the assigned channel values in formatting the output. The assigned channel values as specified on the command are as follows:

- Line 3 assigned to channel 1
- Line 15 assigned to channel 4

---

## Error messages

### \*ESCAPE Messages

**CPF2207**

Not authorized to use object &1 in library &3 type \*&2.

**CPF3207**

Member not added. Errors occurred.

**CPF3303**

File &1 not found in job &5/&4/&3.

**CPF3309**

No files named &1 are active.

**CPF3311**

Copy request failed for file &6 in &7.

**CPF3330**

Necessary resource not available.

**CPF3340**

More than one file with specified name found in job &5/&4/&3.

**CPF3342**

Job &5/&4/&3 not found.

**CPF3343**

Duplicate job names found.

**CPF3344**

File &1 number &8 no longer in the system.

**CPF338A**

Control character \*S36FMT not allowed.

**CPF3394**

Cannot convert spooled file data.

**CPF3429**

File &1 number &7 cannot be displayed, copied, or sent.

**CPF3482**

Copy request failed. Spool file &1 is open.

**CPF3483**

Copy request failed for file &6 in &7.

**CPF3486**

CHLVAL parameter value not valid.

**CPF3492**

Not authorized to spooled file.

**CPF3493**

CTLCHAR parameter not correct for file &1.

**CPF3499**

Records in file &1 preceded all assigned channel values.

**CPF5812**

Member &3 already exists in file &1 in library &2.

**CPF9812**

File &1 in library &2 not found.

**CPF9837**

Attempt made to override file &1 to MBR(\*ALL).

**CPF9845**

Error occurred while opening file &1.

**CPF9846**

Error while processing file &1 in library &2.

Top



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## Copy Source File (CPYSRCF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Conditional

Parameters  
Examples  
Error messages

The Copy Source File (CPYSRCF) command copies a database source file or DDM file to a source physical file or DDM file and converts the character data from the from-file CCSID to the to-file CCSID. If TOFILE(\*PRINT) is specified, a formatted printer file is created by using the IBM-supplied printer file QSYSVRT (the file is changed for source records and is different from other copy command file formats). Any overrides issued for the from-file or to-file apply to the files used in the copy operation. Record data is copied from the from-file to the to-file, converting character data from the from-file CCSID to the to-file CCSID. Other differences in record formats (like that of the FMTOPT(\*NOCHK) parameter option on the CPYF command) are disregarded.

**Note:** For more information on DDM files, see the Distributed database programming topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

One member, all members, or a generic set of members can be copied each time the command is called. From-file members can be copied to like-named to-file members or to a single to-file member. Many members are copied and listed in alphabetical order. The to-file must exist when the CPYSRCF command is started. This command does not create the to-file, but it does add a member to an existing physical file if the member does not already exist in the to-file.

This command provides similar support as the Copy File (CPYF) command. Note that the default for the MBROPT parameter is \*REPLACE (unlike other copy commands), which clears existing records in the receiving member of the to-file before replacing them with records copied from the from-file. Also, the default for the TOMBR parameter is \*FROMMMBR, which causes from-file members to be copied to like-named to-file members.

### Restrictions:

- A file's open data path (ODP) cannot be shared with any other program in the job (routing step) during the copy operation.
- In multithreaded jobs, this command is not threadsafe when copying from or to multiple database file members, device files (except SPOOL(\*YES) print files), distributed files, or DDM files of type \*SNA. This command fails for distributed files that use relational databases of type \*SNA and DDM files of type \*SNA. It is threadsafe ONLY when copying from and to single database file members (local or DDM of type \*IP) or SPOOL(\*YES) print files.

Top

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## Parameters

Keyword	Description	Choices	Notes
FROMFILE	Data base source file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Data base source file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	

Keyword	Description	Choices	Notes
TOFILE	To file	Single values: *PRINT Other values: <i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: To file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
FROMMBR	From member	<i>Generic name, name, *FIRST, *ALL</i>	Required, Positional 3
TOMBR	To member or label	<i>Name, *FROMMBR, *FIRST</i>	Optional, Positional 4
TOMBRID	To member identifier	<i>*GEN, *FROMMBR</i>	Optional
MBROPT	Replace or add records	<i>*REPLACE, *ADD</i>	Optional, Positional 5
SRCCHGDATE	Source change date	<i>*FROMMBR, *NEW</i>	Optional
SRCOPT	Source update options	Single values: <i>*SAME</i> Other values (up to 2 repetitions): <i>*SEQNBR, *DATE</i>	Optional
SRCSEQ	Source sequence numbering	<i>Element list</i>	Optional
	Element 1: Starting sequence number	0.01-9999.99, <u>1.00</u>	
	Element 2: Increment number	0.01-9999.99, <u>1.00</u>	

Top

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## Data base source file (FROMFILE)

Specifies the database source file that contains the records to be copied.

This is a required parameter.

### Qualifier 1: Data base source file

*name* Specify the name of the database source file that contains records being copied.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

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## To file (TOFILE)

Specifies the file that receives the copied records.

This is a required parameter.

### Single values

#### \*PRINT

The records are copied to the IBM-supplied printer file QSYSPRT. No coded character set

identifier (CCSID) conversions occur if \*PRINT is specified. The format includes no blank lines between records. Source sequence number and source change date fields are separated from the data. If multiple file members are copied, members are listed in alphabetic order. If the listing needs to be in hexadecimal format, use the Copy File (CPYF) command with the OUTFMT(\*HEX) parameter value. The IBM-supplied printer file QSYSPRT may not be overridden to a different file name, and it must have the RPLUNPRT(\*YES) and CTLCHAR(\*NONE) attributes.

#### Qualifier 1: To file

*name* Specify the name of the source physical file that receives the copied records.

#### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

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## From member (FROMMBR)

Specifies the file member(s) copied from the from-file. A single member, a generic set of members, or all members in the from-file can be copied. Members are copied in alphabetical order.

This is a required parameter.

**\*ALL** All members in a database file are copied.

#### **\*FIRST**

The first member of the specified file is used.

#### *generic-name*

Specify the generic name of the group of members to be copied.

*name* Specify the name of the database file member to be copied.

Top

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## Member (TOMBR)

Specifies the name of the file member that receives the copied records.

If \*PRINT is specified for the **To file (TOFILE)** parameter, either \*FIRST or \*FROMMBR must be specified for this parameter.

#### **\*FROMMBR**

Corresponding from-file and to-file member names or label identifiers are used. If a member with a corresponding name does not exist in the to-file, a member with that name is added to the to-file.

If a member name or \*FIRST was specified as a value for the FROMMBR parameter, then a member in the to-file with the same name receives the records copied. If \*ALL or a generic member name is specified as a value for the FROMMBR parameter, each member in the from-file is copied into a member with the same name in the to-file. Records from one or more members (specified by the FROMMBR parameter) in the from-file are copied to the first member in the to-file.

### **\*FIRST**

The first member of the specified file is used.

### ***to-member-name***

Specify the name of the physical to-file member to receive the records. If a member with the specified name does not exist, one with the same name is added.

Top

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## **To member identifier (TOMBRID)**

Specifies, for new members added to the to-file, whether the member level identifier will be generated or copied from the member level identifier of the member in the from-file.

**\*GEN** The member level identifier of the new member in the to-file will be generated.

### **\*FROMMBR**

The member level identifier of the new member in the to-file will be the same as the member being copied.

Top

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## **Replace or add records (MBROPT)**

Specifies whether the new records replace or are added to the existing records.

### **\*REPLACE**

The system clears the existing member and adds the new records.

**\*ADD** The system adds the new records to the end of the existing records.

Top

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## **Source change date (SRCCHGDATE)**

Specifies, for new members added to the to-file, or if MBROPT(\*REPLACE) was specified, whether the 'Last source update date/time' will be a new date/time, or copied from the 'Last source update date/time' of the member in the from-file.

### **\*FROMMBR**

The 'Last source update date/time' of the new member in the to-file, or if MBROPT(\*REPLACE) was specified, will be the same as the member being copied.

**\*NEW** The 'Last source update date/time' of the new member in the to-file, or if MBROPT(\*REPLACE) is specified, will be a new date/time.

Top

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## **Source update options (SRCOPT)**

Specifies whether new values are assigned to the source sequence number and date fields when records from the from-file are copied to the to-file.

### **Single values**

### **\*SAME**

No new values are assigned to the source sequence number and date fields.



## Other values (up to 2 repetitions)

### \*SEQNBR

Sequence number and values added for the sequence number are assigned as specified for the **Source sequence numbering (SRCSEQ)** parameter.

### \*DATE

The change date field in each record being copied is set to six zeros.

Top

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## Source sequence numbering (SRCSEQ)

Specifies, only when \*SEQNBR is also specified for the **Source update options (SRCOPT)** parameter, the sequence number to be used in the first copied record and the value to be added to the initial sequence number to calculate the sequence number for each subsequent copied record. The maximum value for a sequence number is 9999.99; if a value is larger than this limit, additional records in the member are all assigned the sequence number 9999.99.

### Element 1: Starting sequence number

**1.00** The first source record copied to the to-file is to have a sequence number of 0001.00.

#### *0.01-9999.99*

Specify the sequence number of the first source record copied to the to-file.

### Element 2: Increment number

**1.00** The copied source records are renumbered in the to-file with whole number additions of 1.

#### *0.01-9999.99*

Specify the value added for renumbering all source records copied after the first record. Once the maximum sequence number of 9999.99 is reached, the sequence number of any additional records copied will also be 9999.99.

Top

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## Examples

### Example 1: Replacing Existing Records

```
CPYSRCF  FROMFILE(QGPL/QCLSRC)  TOFILE(MYLIB/CLSRC)
          FROMMBR(PGMA)
```

This command copies records from member PGMA of database source file QCLSRC which is in the QGPL library. The defaults for the TOMBR and MBROPT parameters are taken so the records are copied to a like-named member (PGMA) of CLSRC in library MYLIB and replaces existing records in the member. If member PGMA does not exist in the to-file, it is added as part of the copy operation. If the CCSID of QGPL/QCLSRC is different from the CCSID of MYLIB/CLSRC, the character data is converted to the CCSID of CLSRC.

### Example 2: Printing Files

```
CPYSRCF  FROMFILE(QRPG/QRPGSRC)  TOFILE(*PRINT)  FROMMBR(INV*)
```

This command copies from database source file QRPGRSRC in library QRPGR, all file members whose names start with the characters INV. Special value \*PRINT is specified for the to-file, so the records are copied to the printer and listed in a format tailored to source records, much like the printout created by SEU. Character data is not converted when specifying TOFILE(\*PRINT).

### Example 3: Changing the Increment Value

```
CPYSRCF FROMFILE(MYLIB/TXTSRC) TOFILE(QIDU/QTXTSRC)
        FROMMBR(*ALL) SRCOPT(*SEQNBR *DATE) SRCSEQ(1 .25)
```

This command copies all the members of database source file TXTSRC in library MYLIB. They are copied and replace (by using the default MBROPT(\*REPLACE)) the existing records in like-named members (by using default TOMBR(\*FROMMBR)) of data source file QTXTSRC in library QIDU. If the to-file members do not exist, they are added by the copy operation. For each member copied, the first record is numbered 1 and each following number is incremented by 0.25. Also, the source date field is set to zero in each record. If the CCSID of MYLIB/TXTSRC is different from the CCSID of QIDU/QTXTSRC, the character data is converted to the CCSID of QIDU/QTXTSRC.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2816

File &1 in &2 not copied because of error.

#### CPF2817

Copy command ended because of error.

#### CPF2858

File attributes not valid for printed output.

#### CPF2859

Shared open data path not allowed.

#### CPF2864

Not authorized to file &1 in library &2.

#### CPF2875

Wrong file member or label opened.

#### CPF2888

Member &3 not added to file because of error.

#### CPF2909

Error clearing member &3 in file &1 in &2.

#### CPF2949

Error closing member &3 in file &1 in &2.

#### CPF2952

Error opening file &1 in library &2.

#### CPF2968

Position error occurred copying file &1 in &2.

#### CPF2971

Error reading member &3 in file &1.

**CPF2972**

Error writing to member &3 in file &1.

**CPF3140**

Initialize or copy of member &2 canceled.

**CPF3143**

Increments not allowed for member &2.

**CPF3148**

New records need too much space for member &2.

**CPF3150**

Data base copy failed for member &2.

**CPF9212**

Cannot load or unload DDM file &2 in &3.

[Top](#)



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## Copy TCP/IP Host Table (CPYTCPHT)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy TCP/IP Host Table (CPYTCPHT) command is used to copy the contents of the TCP/IP host table to a physical file member. The resulting physical file member is used as input to the Merge TCP/IP Host Table (MRGTCPTH) command to modify the contents of the TCP/IP host table. The contents of the resulting physical file member must not be modified by any user program or database utility.

**Note:** This command copies the TCP/IP host table in \*OPSYS format. See the MRGTCPTH command help text for more details.

Top

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### Parameters

Keyword	Description	Choices	Notes
TOFILE	To file	<i>Qualified object name</i>	Optional
	Qualifier 1: To file	<i>Name, <u>QTCPTH</u></i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
TOMBR	To member	<i>Name, *FIRST</i>	Optional
MBROPT	Replace or add records	<i>*REPLACE, *ADD</i>	Optional

Top

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### To file (TOFILE)

Specifies the physical file to which the TCP/IP host table is copied. If the file does not exist, a physical file is created in the specified library. If the file is created, the public authority for the file is the same as the create authority specified for the library in which the file is created. Use the Display Library Description (DSPLIBD) command to show the library's create authority.

#### Qualifier 1: To file

##### QTCPTH

The default file name.

*name* Specify the name of the physical file to which the TCP/IP host table is copied.

#### Qualifier 2: Library

\*LIBL The library list is used to locate the file. If the file is not found, one is created in the current library. If no current library exists, the file will be created in the QGPL library.

##### \*CURLIB

The current library for the thread is used to locate the file. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library to be searched.

---

## To member (TOMBR)

Specifies the name of the physical file member to which the TCP/IP host table is copied.

### \*FIRST

The first member in the file receives the output. If TOMBR(\*FIRST) is specified and the member does not exist, the system creates a member with the name of the file specified for the **To file (TOFILE)** parameter. If the member already exists, you have the option to add new records to the end of the existing member or clear the member and then add the new records.

*name* Specify the name of the file member that receives the output. If it does not exist, the system creates it.

Top

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## Replace or add records (MBROPT)

Specifies whether the new records replace or are added to the existing records.

### \*REPLACE

The system clears the existing member and adds the new records.

**\*ADD** The system adds the new records to the end of the existing records.

Top

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## Examples

### Example 1: Copying Host Table Using Defaults

```
CPYTCPHT
```

This command will do the following:

- If a physical file named QTCPHT is found in one of the libraries on the library list, the first member in the file will be cleared and the TCP/IP host table contents will be copied to the first member in the file. If no members exist in the file, a member named QTCPHT will be added to the file and the contents will be copied to that member.
- If a file named QTCPHT is not found, physical file QTCPHT will be created in the current library (or in library QGPL if no current library exists), a member named QTCPHT will be added to the file, and the host table contents will be copied to that member.

### Example 2: Copying Host Table to a Specific File Member

```
CPYTCPHT TOFILE(MYLIB/MYFILE) TOMBR(MBR2) MBROPT(*ADD)
```

This command will do the following:

- If physical file MYLIB/MYFILE exists and member MBR2 exists, the host table contents will be added to the end of member MBR2.
- If physical file MYLIB/MYFILE exists and member MBR2 does not exist, MBR2 will be added to the file and the host table contents will be copied to MBR2.

- If physical file MYLIB/MYFILE does not exist, file MYFILE will be created in library MYLIB, a member named MBR2 will be added to the file, and the host table contents will be copied to MBR2.

[Top](#)

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## **Error messages**

### **\*ESCAPE Messages**

#### **CPF9860**

Error occurred during output file processing.

[Top](#)





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## Copy To Directory (CPYTODIR)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy To Directory (CPYTODIR) command is used to copy system distribution directory data from a tape or diskette unit to the local system. The directory data that is copied to the local system is created by the Copy From Directory (CPYFRMDIR) command on a remote system. This function allows the local system to begin a directory shadowing environment with the remote system by shadowing changes made to the directory data from the remote system.

**Caution:** Do not use this command as a backup utility to save and restore directory data for data recovery purposes. Follow the normal backup and recovery procedure guidelines described in the Recovering your system book, SC41-5304.

**Restriction:** You must have security administrator (\*SECADM) authority to use this command.

Top

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### Parameters

Keyword	Description	Choices	Notes
LABEL	File label	<i>Character value</i>	Required, Positional 1
DEV	Device	Values (up to 4 repetitions): <i>Name</i>	Required, Positional 2
AUTOINZ	Automatically initialize	*YES, *NO	Optional
RPLDTA	Replace data	*YES, *NO	Optional
VOL	Volume identifier	Single values: *NONE Other values (up to 50 repetitions): <i>Character value</i>	Optional
SEQNBR	Sequence number	1-9999, *NEXT	Optional
ENDOPT	End of tape option	*REWIND, *LEAVE, *UNLOAD	Optional

Top

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### File label (LABEL)

Specifies the device file label on the tape or diskette used for the copy operation. A maximum of 17 characters can be specified for tape devices; a maximum of 8 characters can be specified for diskette unit.

This is a required parameter.

Top

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### Device (DEV)

Specifies the names of the tape or diskette units used for the copy operation. Each tape or diskette unit name must already be known on the system by a device description.

### *tape-device-name*

Specify the names of one or more tape devices used for the copy operation. If more than one tape device is used, specify the names of the devices in the order in which they are used. When more than one tape volume is used, using more than one tape device permits one tape volume to be rewound or unloaded while another tape device processes the next tape volume.

### *diskette-device-name*

Specify the name of the diskette unit to be used for the copy operation.

This is a required parameter.

Top

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## Automatically initialize (AUTOINZ)

Specifies whether to automatically pass the information copied to this system to other collector systems through directory shadowing.

**\*YES** The directory entries copied are automatically supplied to collector systems.

**\*NO** The directory entries copied are not supplied to other collector systems that have already been initialized.

Top

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## Replace data (RPLDTA)

Specifies whether to replace a directory entry on the local system with directory data copied from tape or diskette.

**\*NO** Shadowed data is copied from tape or diskette, but directory entries are not replaced with copied directory data if the directory entry exists on the system.

**\*YES** All directory data is copied from tape or diskette. A directory entry replaces an entry for the same user that already exists on the system.

Top

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## Volume identifier (VOL)

Specifies one or more volume identifiers used by the file.

### **\*NONE**

No volume identifiers are specified for the file. No volume identifiers are checked.

### *volume-identifier*

Specify the identifiers of one or more volumes in the order in which they are placed in a device and used for the copy operation.

Top

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## Sequence number (SEQNBR)

Specifies the sequence number of the data file on the tape that is processed. The four-position file sequence number is read from the first header label of the data file.

### \*NEXT

The copy operation begins on the next file on the tape volume. If the tape is currently positioned before the first file, the first file from the tape is processed.

### *file-sequence-number*

Specify the sequence number of the file that is used. Valid values range from 1 through 9999.

Top

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## End of tape option (ENDOPT)

Specifies the operation that is automatically performed on the tape volume after the operation ends. If more than one volume is included, this parameter applies only to the last tape volume used; all other tape volumes are rewound and unloaded when the end of the tape is reached.

### \*REWIND

The tape is automatically rewound, but not unloaded, after the operation has ended.

### \*LEAVE

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

### \*UNLOAD

The tape is automatically rewound and unloaded after the operation ends.

Top

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## Examples

```
CPYTODIR  DEV(DKT01)  AUTOINZ(*YES)  RPLDTA(*NO)
```

This command copies all of the directory data from diskette device DKT01 to the local system. Data that is copied to the local system is passed along to other systems that use communications to perform directory shadow initializing or normal directory shadowing. Local system data identified as being the same as diskette data is not replaced.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF90A8

\*SECADM special authority required to do requested operation.

#### CPF90FB

Directory data not copied because of errors.

Top



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## Copy To Import File (CPYTOIMPF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy To Import File (CPYTOIMPF) command copies an externally-described file to an import file. The term import file is used to describe a file created for purposes of copying data between heterogeneous databases. The import file (TOSTMF or TOFILE parameter) will be called the to-file for this command.

Some of the specific functions that can be performed by the CPYTOIMPF command include the following:

- Copying from an externally described physical file to the to-file (TOFILE or TOSTMF parameter).
- Adding records to an existing to-file member or replacing the contents of the to-file member (MBROPT parameter).

**Error Handling:** The escape message CPF2817 is sent for many different error conditions that can occur during a copy operation. At least one diagnostic message that indicates the specific error condition always comes before the escape message. More information on handling errors is in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Overrides:** All overrides are in effect for this command. The parameters of the overrides that are supported by CPYTOIMPF are:

- FILE
- MBR
- OPNSCOPE
- SHARE
- LVLCHECK
- RCDFMTLCK
- SEQONLY
- INHWRT
- WAITRCD
- DSTDTA
- NBRRCDS

**Status Message:** During the running of the CPYTOIMPF command, message CPI2801 is sent as a status message informing the interactive user that a copy is occurring. More information on preventing status messages from appearing is in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

### Restrictions:

- During the time a CPYTOIMPF request is run, the file specified for the **To data base file (TOFILE)** parameter may be locked (similar to an \*EXCL lock with no timeout) so that no access is possible.
- If the from-file has the SHARE(\*YES) attribute, unpredictable results can occur. Therefore, if the from-file is defined with SHARE(\*YES), the user should make sure the file is not opened by any process prior to the copy.
- If STMFAUT(\*FILE) or STMFAUT(\*INDIRFILE) is specified, the user must have the object management (\*OBJMGT) authority over the database file and the stream file.

**Note:** Do not precede an entry with an asterisk unless that entry is a "special value" that is shown (on the display itself or in the help information) with an asterisk.

Top

## Parameters

Keyword	Description	Choices	Notes
FROMFILE	From file	<i>Element list</i>	Required, Positional 1
	Element 1: File	<i>Qualified object name</i>	
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
	Element 2: Member	<i>Name, *FIRST, *ALL</i>	
TOFILE	To data base file	<i>Element list</i>	Optional, Positional 2
	Element 1: File	<i>Qualified object name</i>	
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
	Element 2: Member	<i>Name, *FIRST, *FROMMBR, *ALL</i>	
TOSTMF	To stream file	<i>Path name</i>	Optional, Positional 3
MBROPT	Replace or add records	<i>*ADD, *REPLACE</i>	Optional
FROMCCSID	From CCSID	1-65533, <i>*FILE</i>	Optional
TOCCSID	To CCSID	1-65533, <i>*FILE</i>	Optional
STMFCSSID	Stream file CCSID	1-65533, <i>*STMF, *PCASCII, *STDASCII</i>	Optional
STMFCODPAG	Stream file code page	1-32767, <i>*STMF, *PCASCII, *STDASCII</i>	Optional
STMFAUT	Stream file authority	<i>*DFT, *INDIR, *FILE, *INDIRFILE</i>	Optional
RCDDL	Record delimiter	<i>Character value, *EOR, *CRLF, *LF, *CR, *LFCR</i>	Optional
DTAFMT	Record format of import file	<i>*DLM, *FIXED</i>	Optional
STRDLM	String delimiter	<i>Character value, *DBLQUOTE, *NONE</i>	Optional
STRESCCHR	String escape character	<i>Character value, *STRDLM, *NONE</i>	Optional
RMVBLANK	Remove blanks	<i>*NONE, *LEADING, *TRAILING, *BOTH</i>	Optional
FLDDL	Field delimiter	<i>Character value, ' ', *TAB</i>	Optional
NULLIND	Null field indicator	<i>*NO, *YES</i>	Optional
NUMFLDPAD	Numeric field pad	<i>*NONE, *BLANK, *ZERO</i>	Optional
DECPNT	Decimal point	<i>*PERIOD, *COMMA</i>	Optional
DATFMT	Date format	<i>*ISO, *USA, *EUR, *JIS, *YYMD</i>	Optional
TIMFMT	Time format	<i>*ISO, *USA, *EUR, *JIS</i>	Optional

Top

## From file (FROMFILE)

Specifies the file that contains the records to be copied. The database file can be a single-format logical, physical, or multi-system file.

This is a required parameter.

### Element 1: File

### Qualifier 1: File

*name* Specify the name of the file that contains the records to be copied.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

### Element 2: Member

#### \*FIRST

The first member (in order of creation date) in the specified from-file is used. Specifying \*FIRST is not allowed if the from-file has no members.

\*ALL All members of the specified file are copied.

*name* Specify the name of the from-file member containing the records to copy.

Top

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## To data base file (TOFILE)

Specifies the database file to receive the copied records. Either this parameter or the TOSTMF parameter is required.

The to-file can be any of the following file types:

- source physical file
- program-described physical file
- externally-described physical file with one non-numeric field.

### Element 1: File

#### Qualifier 1: File

*name* Specify the name of the file to receive the copied records.

#### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

## Element 2: Member

### \*FIRST

The first member (in order of creation date) in the specified to-file is used.

Specifying \*FIRST is not allowed if the specified to-file has no members and there is no override (OVRDBF command) in effect that specified a member name for the to-file.

**\*ALL** The data is copied to the correct to-member of the partitioned table. \*ALL is only valid for partitioned tables.

### **\*FROMMBR**

Corresponding from-file and to-file member names are used.

*name* Specify the name of the to-file member to receive the copied records. If a member with the specified name does not already exist in the to-file, the member will be added.

Top

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## To stream file (TOSTMF)

Specifies the output stream file to which data is to be copied. Either this parameter or the TOFILE parameter is required. All directories in the path name must exist. New directories are not created. If the stream file does not exist, it will be created.

**Note:** The QSYS.LIB file system does not allow attributes to be set, so if the path name specified on the TOSTMF parameter is a QSYS member, diagnostic messages will appear in the joblog. The diagnostic messages will not prevent the copy operation from completing successfully.

### *path-name*

Specify the path name of the output stream file to which data is to be copied.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## Replace or add records (MBROPT)

Specifies whether the copy operation replaces, adds, or fails to copy to the records in the to-file member if a member with the specified name already exists. If the member does not exist, it is created and added to the to-file.

**Note:** If \*ADD is specified and the to-file contains no records, the copy operation completes normally. If \*REPLACE is specified and the to-file contains no records, the copy operation ends abnormally.

Additional information is available in the Files and file systems category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**\*ADD** The copied records are added to the end of the existing member records.

### **\*REPLACE**

The copied records replace the existing member records.

Top



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## From CCSID (FROMCCSID)

Specifies the coded character set identifier (CCSID) to use for the from-file fields.

**\*FILE** The data is converted from the from-file field CCSID. If the CCSID of the from-file field is 65535, the field is not converted and it is treated as binary data.

### *1-65533*

Specify the CCSID to be used when the CCSID of the from-file field is 65535. If the CCSID of the from-file field is not 65535, this parameter is ignored.

Top

---

## To CCSID (TOCCSID)

Specifies the coded character set identifier (CCSID) to use for the file specified for the **To data base file (TOFILE)** parameter.

**\*FILE** The CCSID of the to-file database file is used.

### *1-65533*

Specify the CCSID to be used when the CCSID of the to-file is 65535. If the to-file CCSID is not 65535, an error message will be sent.

Top

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## Stream file CCSID (STMFCSSID)

Specifies the method of obtaining the stream file coded character set identifier (CCSID) equivalent of the code page that is used for data conversion.

This parameter can not be specified with the **Stream file code page (STMFCODPAG)** parameter.

### **\*STMF**

If the stream file exists, and data conversion is requested, the CCSID equivalent of the code page associated with the stream file is used to perform the conversion.

If the stream file does not exist, the CCSID equivalent of the source database file CCSID is used and associated with the stream file.

### **\*STDASCII**

If the stream file exists, this option is valid only if the CCSID equivalent of the code page associated with the stream file is the same as the specified value. Otherwise, the operation will fail.

If the stream file does not exist, a CCSID in the IBM PC Data encoding scheme (x2100) is computed. This CCSID is associated with the target stream file and is used for data conversion if it is requested.

### **\*PCASCII**

If the stream file exists, this option is valid only if the CCSID equivalent of the code page associated with the stream file is the same as the specified value. Otherwise, the operation will fail.

If the stream file does not exist, a CCSID in the Microsoft Windows encoding scheme (x4105) is computed. (Microsoft and Windows are registered trademarks of Microsoft Corporation). This CCSID is associated with the target stream file and is used for data conversion if it is requested. This option allows the resulting data to be used by Microsoft Windows applications.

1-65533

Specify the desired CCSID of the stream file. If the stream file exists, this option is valid only when the specified value matches the CCSID of the stream file. Otherwise, an error message is sent. If the stream file does not exist, the specified CCSID is associated with the stream file when it is created.

Top

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## Stream file code page (STMFCODPAG)

Specifies the method of obtaining the stream file code page and the coded character set identifier (CCSID) equivalent of the code page that is used for data conversion.

This parameter can not be specified with the **Stream file CCSID (STMFCCSID)** parameter.

**Note:** This parameter is replaced by STMFCCSID but the STMFCODPAG parameter can still be used. However, because this parameter may be removed in a later release, use the STMFCCSID parameter whenever possible.

### \*STMF

If the stream file exists, and data conversion is requested, the CCSID equivalent of the code page associated with the stream file is used to perform the conversion.

If the stream file does not exist, the code page equivalent of the source database file CCSID is used and associated with the stream file.

### \*STDASCII

If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value. Otherwise, the operation will fail.

If the stream file does not exist, a code page in the IBM PC Data encoding scheme (x2100) is computed. This code page is associated with the target stream file and is used for data conversion if it is requested.

### \*PCASCII

If the stream file exists, this option is valid only if the code page associated with the stream file is the same as the specified value. Otherwise, the operation will fail.

If the stream file does not exist, a code page in the Microsoft Windows encoding scheme (x4105) is computed. (Microsoft and Windows are registered trademarks of Microsoft Corporation). This code page is associated with the target stream file and is used for data conversion if it is requested. This option allows the resulting data to be used by Microsoft Windows applications.

1-32767

Specify the codepage to be used. If the stream file exists, this option is only valid if the code page associated with the stream file is the same as the specified value. Otherwise, an error message is sent. If the stream file does not exist, the specified code page is associated with the stream file when it is created.

Top

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## Stream file authority (STMFAUT)

Specifies the method of assigning authority settings to the specified output stream file to which data is to be copied. If the specified output stream file already exists, this parameter is ignored.

\*DFT The owner of stream file will be granted \*RWX data authority to the stream file. The primary group and \*PUBLIC will have \*NONE data authority to the stream file. Object authorities will be based on the object authorities for the directory where the stream file is to be created.

#### **\*INDIR**

The authority settings of the output stream file are based on the authority for the directory where the stream file is to be created. The stream file is assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the directory in which it is created. If the target file system does not support the \*INDIR special value, the command will fail.

**\*FILE** The authority settings of the output stream file are based on the authority for the object specified on the From file (FROMFILE) parameter. The stream file is assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the from-file object being copied. If the target file system does not support one or more of these values, the unsupported values will be ignored.

If the from-file object is a multi-system file, the default value \*DFT is used instead of the \*FILE value.

#### **\*INDIRFILE**

The resulting authority information will be similar to that produced by copying and pasting a stream file using IBM System i Navigator graphical user interface. The authority information for the stream file will initially be based on the directory where the stream file is created. Then, authority information from the object specified on the From file (FROMFILE) parameter will be copied to the object. This may replace some of the initial authority information obtained from the directory.

If the from-file object is a multi-system file, the default value \*INDIR is used instead of the \*INDIRFILE value.

Top

---

## **Record delimiter (RCDDL)**

Specifies the record delimiter of the to-file.

If the TOFILE parameter is specified, valid values are \*EOR or a character value. If the TOSTMF parameter is specified, valid values are \*CR, \*CRLF, \*LF, \*LFCR or \*ALL.

**\*EOR** End of record and the data after the last field will be padded with X'00'.

#### **\*CRLF**

Carriage-return followed by line-feed is appended to the end of the line.

**\*LF** Line-feed is appended to the end of the line.

**\*CR** Carriage-return is appended to the end of the line.

#### **\*LFCR**

Line-feed followed by carriage-return is appended to the end of the line.

#### *character-value*

Specify the single character which indicates the end of a single record.

Top

---

## **Record format of import file (DTAFMT)**

Specifies the format of the data of the generated to-file.

**\*DLM** The data contains delimiter characters. Refer to parameter descriptions for STRDLM, FLDDL, and RCDDL for information on string, field, and record delimiter characters.

#### **\*FIXED**

The data format is fixed. The data is in fixed columns in each record. Refer to the **Null field indicator (NULLIND)** parameter for more information on how null fields will appear in the to-file.

Top

---

## **String delimiter (STRDLM)**

Specifies the string delimiter for the data of the fields being copied to. This character indicates the start and end of character, date, time, and timestamp strings in the to-file. Depending on the utility used to create the to-file, some types of strings may appear in the to-file without string delimiter characters.

The specified delimiter character will be converted from the coded character set identifier (CCSID) of the job to the CCSID of the to-file. If the to-file CCSID is 1200, 1208, or 13488 the delimiter is converted to the job CCSID, or to the job's default CCSID when the job CCSID is 65535.

#### **\*DBLQUOTE**

The double quote character is used as the string delimiter.

#### **\*NONE**

No delimiter is expected as the string delimiter. The blank character ( ) represents the \*NONE value.

#### *character-value*

Specify the character value for the string delimiter.

Top

---

## **String escape character (STRESCCHR)**

Specifies the escape character to be generated within string fields in the to-file. Character fields in the to-file may contain characters that have a special meaning to the import utility. These characters include the string delimiter and the string escape character itself.

The string escape character precedes such characters in the to-file data and revokes their special meaning. The import utility can then determine if the character is data or a string delimiter.

The specified string escape character will be converted from the coded character set identifier (CCSID) of the job to the CCSID of the to-file. If the to-file CCSID is 1200, 1208, or 13488 the string escape character is converted to the job CCSID, or the job's default CCSID when the job CCSID is 65535.

#### **\*STRDLM**

The string delimiter is used as the escape character. Each string delimiter in a from-file character field is exported as two adjacent string delimiters.

#### **\*NONE**

No string escape character is inserted in the data. If the string delimiter character is present in the data, unexpected results could occur in the import utility that relies on the to-file.

#### *character-value*

Specify the character to be used as the escape character.

Top

---

## Remove blanks (RMVBLANK)

Specifies whether blanks are removed or retained. This parameter is ignored when the DTAFMT parameter is set to \*FIXED.

### \*NONE

All leading and trailing blanks are retained.

### \*LEADING

Leading blanks are removed.

### \*TRAILING

Trailing blanks are removed.

### \*BOTH

Leading and trailing blanks are removed.

Top

---

## Field delimiter (FLDDLM)

Specifies the field delimiter for the record. This value is placed between fields.

',' A comma is used as the field delimiter.

\*TAB The horizontal tab character is used as field delimiter.

*character-value*

Specify the character value for the field delimiter.

Top

---

## Null field indicator (NULLIND)

Specifies whether the first character following each field will contain either a Y or N indicating if the field is null. NULLIND(\*YES) is only valid if \*FIXED is specified for the **Record format of import file (DTAFMT)** parameter.

\*NO Do not add the null value indicator character after each field.

\*YES Add the null value indicator character after each field in the generated fixed-format to-file.

Top

---

## Numeric field pad (NUMFLDPAD)

Specifies the padding applied for numeric fields. This parameter is ignored when the DTAFMT parameter is not \*FIXED.

### \*NONE

No padding, resulting in left justification.

### \*BLANK

Left padding with blanks, resulting in right justification.

### \*ZERO

Left padding with zeroes.

Top

---

## Decimal point (DECPNT)

Specifies the decimal point character to be used when copying numeric data to the to-file.

### \*PERIOD

A period (.) is used for the decimal point character.

### \*COMMA

A comma (,) is used for the decimal point character.

Top

---

## Date format (DATFMT)

Specifies the date format to be used when copying date fields to the to-file.

\*ISO The International Organization for Standardization (ISO) date format **yyyy-mm-dd** is used.

\*USA The United States date format **mm/dd/yyyy** is used.

\*EUR The European date format **dd.mm.yyyy** is used.

\*JIS The Japanese Industrial Standard date format **yyyy-mm-dd** is used.

### \*YYMD

The date format **yyyymmdd** is used.

Top

---

## Time format (TIMFMT)

Specifies the time format to be used when copying time fields to the to-file.

\*ISO The International Organization for Standardization (ISO) time format **hh.mm.ss** is used.

\*USA The United States time format **hh:mm xx** is used, where **xx** is AM or PM.

\*EUR The European time format **hh.mm.ss** is used.

\*JIS The Japanese Industrial Standard time format **hh:mm:ss** is used.

Top

---

## Examples

```
CPYTOIMPF FROMFILE(DB2FILE) TOFILE(EXPFILE)
          FLDDL(';') RCDDL('X'07')
          STRDLM(*DBLQUOTE) DATFMT(*JIS) TIMFMT(*JIS)
```

All records of externally described file DB2FILE will be copied to import file EXPFILE. Fields in the import file will be delimited by semi-colon (;) characters. Each record in the import file will be delimited by a hexadecimal '07' character. Character, date, time, and timestamp values will begin and end with the double quote character. Date and time fields will be in the \*JIS format.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF2817

Copy command ended because of error.

[Top](#)





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## Copy To LDIF (CPYTOLDIF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Copy To LDIF (CPYTOLDIF) command is used to copy the directory contents of a Directory Server instance to a LDAP Data Interchange Format (LDIF) file. The Directory Server provides a Lightweight Directory Access Protocol (LDAP) server on i5/OS.

**Restriction:** You must do or satisfy one of the following conditions to use this command:

- Have all object (\*ALLOBJ) and input/output system configuration (\*IOSYSCFG) special authorities.
- Supply the administrator distinguished name and password.
- Be a Directory Services administrator. The caller is a Directory Services administrator if the Directory Services server has been configured to grant administrator access to authorized users and the caller is authorized to the 'Directory Services Administrator' function of the operating system.

[Top](#)

---

### Parameters

Keyword	Description	Choices	Notes
INSTANCE	Instance	<i>Name</i> , <u>QUSRDIR</u>	Optional, Positional 2
LDIFSTMF	LDIF stream file	<i>Path name</i>	Required, Positional 1
ADMIN	Administrator	<i>Element list</i>	Optional
	Element 1: Distinguished name	<i>Character value</i>	
	Element 2: Password	<i>Character value</i>	
SUBTREE	Subtree distinguished name	<i>Character value</i> , * <u>ALL</u>	Optional
LOCALHOST	Copy cn=localhost	* <u>NOCOPY</u> , *COPY	Optional
PWDPOLICY	Copy cn=pwdpolicy	* <u>NOCOPY</u> , *COPY	Optional
NESTRPLC	Copy nested replication	* <u>COPY</u> , *NOCOPY	Optional
OPRATR	Copy operational attributes	* <u>COPY</u> , *NOCOPY	Optional
PASSPHRASE	Passphrase	<i>Character value</i>	Optional
ENCSALT	Encryption salt	<i>Character value</i>	Optional

[Top](#)

---

### Instance (INSTANCE)

Specifies the Directory Server instance whose directory entries are to be copied.

#### QUSRDIR

The name of the system default Directory Server instance.

*name* Specify the Directory Server instance name. The name has a minimum of one character and a maximum of eight characters.

---

## LDIF stream file (LDIFSTMF)

Specifies the integrated file system path to the LDAP Data Interchange Format (LDIF) stream file.

This is a required parameter.

### *path-name*

Specify the path name of the LDIF stream file to contain the copy of the Directory Server instance directory entries.

Top

---

## Administrator (ADMIN)

Specifies the Directory Server administrator. If not specified, the user must have all object (\*ALLOBJ) and input/output system configuration (\*IOSYSCFG) special authorities.

### Element 1: Distinguished name

#### *character-value*

Specify the distinguished name for the Directory Server administrator, for example, cn=administrator. A maximum of 50 characters is allowed.

### Element 2: Password

#### *character-value*

Specify the password for the Directory Server administrator. The password is case sensitive and must be enclosed in apostrophes. A maximum of 50 characters is allowed.

Top

---

## Subtree distinguished name (SUBTREE)

Specifies the distinguished name (DN) of the root of a directory subtree to copy to the LDAP Data Interchange Format (LDIF) stream file. This object, and all descendant objects will be copied.

**\*ALL** To copy the entire directory tree.

#### *character-value*

Specify the subtree distinguished name to be copied. A maximum of 50 characters is allowed.

Top

---

## Copy cn=localhost (LOCALHOST)

Specifies whether data located under the distinguished name cn=localhost is copied to the LDAP Data Interchange Format (LDIF) stream file.

#### **\*NOCOPY**

The contents of cn=localhost are not copied to the LDIF stream file.

#### **\*COPY**

The contents of cn=localhost are copied to the LDIF stream file.

Top

---

## Copy cn=pwdpolicy (PWDPOLICY)

Specifies whether data located under the distinguished name cn=pwdpolicy is copied to the LDAP Data Interchange Format (LDIF) stream file.

### \*NOCOPY

The contents of cn=pwdpolicy are not copied to the LDIF stream file.

### \*COPY

The contents of cn=pwdpolicy are copied to the LDIF stream file. This can only be specified when \*ALL is used for the subtree DN (SUBTREE) parameter.

Top

---

## Copy nested replication (NESTRPLC)

Specifies whether nested replication contexts are copied to the LDAP Data Interchange Format (LDIF) stream file. For example, if a directory contains the replication contexts o=acme and cn=external users,o=acme, this option can be used to copy data under the distinguished name o=acme while excluding all entries under the distinguished name cn=external users,o=acme.

### \*COPY

Data from nested replication contexts is copied to the LDIF stream file.

### \*NOCOPY

Data from nested replication contexts is not copied to the LDIF stream file. This can only be specified if a subtree DN (SUBTREE) is specified.

Top

---

## Copy operational attributes (OPRATR)

Specifies whether the following four operational attributes are copied to the LDAP Data Interchange Format (LDIF) stream file:

- creatorsName
- createTimestamp
- modifiersName
- modifyTimestamp.

### \*COPY

The operational attributes are copied to the LDIF stream file.

### \*NOCOPY

The operational attributes are not copied to the LDIF stream file.

Top

---

## Passphrase (PASSPHRASE)

Specifies the Advanced Encryption Standard (AES) passphrase to be used to encrypt any encrypted information stored in the LDAP Data Interchange Format (LDIF) stream file. This passphrase must match the passphrase used by the Directory Server instance that will copy the information from this LDIF stream file. This should only be specified if the target Directory Server instance is using AES encryption to encrypt data.

### *character-value*

Specify the passphrase. A minimum of 12 characters and maximum of 1016 characters is allowed. The passphrase is case sensitive, therefore characters must be enclosed in apostrophes. Valid characters are:

```
! # $ % & ' ( ) * + , - . / ? > = < ; : _  
" % & ' ( ) * + , - . / ? > = < ; : _  
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m n o p q r s t u v w x y z  
0 1 2 3 4 5 6 7 8 9
```

Top

---

## Encryption salt (ENCSALT)

Specifies the Advanced Encryption Standard (AES) salt to be used to encrypt any encrypted information stored in the LDAP Data Interchange Format (LDIF) stream file. The encryption salt must match the encryption salt used by the Directory Server instance that will copy the information from the LDIF stream file created by the command. This should only be specified if the target Directory Server instance is using AES encryption to encrypt data.

### *character-value*

Specify the encryption salt. Exactly 12 characters must be used. The encryption salt is case sensitive, therefore characters must be enclosed in apostrophes. Valid characters are:

```
! # $ % & ' ( ) * + , - . / ? > = < ; : _  
" % & ' ( ) * + , - . / ? > = < ; : _  
A B C D E F G H I J K L M N O P Q R S T U V W X Y Z  
a b c d e f g h i j k l m n o p q r s t u v w x y z  
0 1 2 3 4 5 6 7 8 9
```

Top

---

## Examples

### Example 1: Copy Entire QUSRDIR Directory

```
CPYTOLDIF INSTANCE(QUSRDIR) LDIFSTMF('/ldap/qusrdir.ldif')
```

This command copies the entries from the Directory Server directory for the QUSRDIR instance to the **qusrdir.ldif** stream file in the **ldap** directory. The user running the command this way must have all object (\*ALLOBJ) and input/output system configuration (\*IOSYSCFG) special authorities.

### Example 2: Copy the o=ibm Subtree Only

```
CPYTOLDIF INSTANCE(QUSRDIR) LDIFSTMF('/ldap/ibmsubtree.ldif')  
SUBTREE('o=ibm') ADMIN('cn=admin' 'secret')
```

This command copies the o=ibm subtree entries from the Directory Server directory for the QUSRDIR instance to the **ibmsubtree.ldif** stream file in the **ldap** directory.

### Example 3: Copy the cn=localhost Entries

```
CPYTOLDIF INSTANCE(DOGGIES)  
LDIFSTMF('/ldap/include/local.ldif')  
SUBTREE(*ALL) LOCALHOST(*COPY)  
ADMIN('cn=fluffy' 'poodle')
```

This command copies the entries from the Directory Server directory for the DOGGIES instance including the entries in cn=localhost to the **includelocal.ldif** stream file in the **ldap** directory.

[Top](#)

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## **Error messages**

### **\*ESCAPE Messages**

#### **GLD0202**

Administrator DN or password not correct.

#### **GLD0213**

Error opening or creating file.

#### **GLD0215**

Directory server instance &1 not found.

#### **GLD0218**

Not enough authority or incorrect distinguished name and password specified.

#### **GLD022B**

Cannot find object &1.

#### **GLD0234**

Export subtree is not a replication context.

#### **GLD0413**

Validation list entry error occurred.

[Top](#)



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## Copy To PC Document (CPYTOPCD)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy To PC Document (CPYTOPCD) command copies a member from a system database file to a PC document in a folder.

**Note:** Do not precede an entry with an asterisk unless that entry is a "special value" that is shown (on the display itself or in the help information) with an asterisk.

---

### Error messages for CPYTOPCD

#### \*ESCAPE Messages

##### IWS1612

Member &1 not copied to PC document.

Top

---

### Parameters

Keyword	Description	Choices	Notes
FROMFILE	From file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: From file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
TOFLR	To folder	<i>Character value</i>	Required, Positional 2
FROMMBR	From member	<i>Name, *FIRST</i>	Optional, Positional 3
TODOC	To document	<i>Character value, *FROMMBR</i>	Optional, Positional 4
REPLACE	Replace document	<i>*NO, *YES</i>	Optional, Positional 5
TRNTBL	Translate table	Single values: <i>*DFT, *NONE</i> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Translate table	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
TRNFMT	Format of PC data	<i>*TEXT, *NOTEXT</i>	Optional
TRNIGC	DBCS code page	<i>*DFT, *JPN, *CHT, *BG5, *CHS, *KOR, *KSC, *SCGS, *NONE</i>	Optional
RCDFMT	Record format	<i>Name, *ALL</i>	Optional

Top

---

## From file (FROMFILE)

Specifies the name and library of the database file you are copying data from. The file can be either a physical file or a logical file.

This is a required parameter.

The possible library values are:

**\*LIBL** The library list is used to locate the database file.

**\*CURLIB**

The current library for the job is used to locate the database file. If no current library entry exists in the library list, QGPL is used.

*library-name*

Specify the library where the database file is located.

If this file is a source file and the records are being translated from EBCDIC to ASCII, the line number and date are removed when the records are written in the PC document.

Top

---

## To folder (TOFLR)

Specifies the name of the folder that contains the PC document being copied to.

The name can be a fully qualified path name of the form:

- folder1/folder2/folder3/.../foldern

The path name can be up to 63 characters in length. All folders in the path must exist.

This is a required parameter.

Top

---

## From member (FROMMBR)

Specifies the name of the member that is copied.

**\*FIRST**

The first member of the file is copied.

*member-name*

Specify the name of the member that is copied.

Top

---

## To document (TODOC)

Specifies the name of the PC document in the folder to contain the copied database file member. If the document does not exist, it is created.

**\*FROMMBR**

The name of the PC document is the same as the member name.

*document-name*

Specify a valid document name which has the form:



- filename.extension

The filename can be from 1 to 8 characters, and the extension can be from 1 to 3 characters.

Top

---

## Replace document (REPLACE)

Specifies if an existing document is replaced by the copy operation.

**\*NO** If a document of this name already exists in the folder specified by the **To folder** prompt (TOFLR parameter), the copy is not performed.

**\*YES** If a document of this name already exists in the folder specified by the **To folder** prompt (TOFLR parameter), it is replaced by the database file member that is copied.

Top

---

## Translate table (TRNTBL)

Specifies if translation is performed and, if so, the name of the translation table used to translate the data from EBCDIC to ASCII.

**Note:** For a user defined double-byte character set, this parameter also specifies if translation is performed and, if so, which translation table is used for single-byte translation.

The format of the records in the PC document is handled by the **Format of PC data** prompt (TRNFMT parameter),

**\*DFT** The default translation table is used.

### *translation-table-name*

Specify the name and library of the translation table.

The possible library values are:

**\*LIBL** The library list is used to locate the table.

### **\*CURLIB**

The current library for the job is used to locate the table. If no current library entry exists in the library list, QGPL is used.

### *library-name*

Specify the library where the table is located.

### **\*NONE**

No translation from EBCDIC to ASCII is performed. The records are copied to the PC document as fixed-length records. There are no ASCII carriage return, line feed, or end of file characters added to the PC document. The length of these fixed length records is the same as the length of the records in the database file member.

Top

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## Format of PC data (TRNFMT)

Specifies the format the records in the PC document are to have.

This parameter is not valid if **\*NONE** is specified on the **Translate table** prompt (TRNTBL parameter).

### \*TEXT

The records in the PC document will be written in standard DOS ASCII variable length format. The ASCII carriage return and line feed characters are added to the end of each record, and the ASCII end of file character is added to the end of the PC document.

### \*NOTEXT

The records in the PC document will be fixed length records. The length of the records in the database file is used for the length of the records in the PC document.

Top

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## DBCS code page (TRNIGC)

Specifies the double-byte character set used for translation. Unless overridden by the **Translate table** prompt (TRNTBL parameter), this parameter also specifies the single-byte translation table.

\*DFT The default country or region's double-byte character set.

\*JPN IBM Japanese.

\*CHT IBM Traditional Chinese.

\*BG5 Taiwan Industry standard (BIG-5).

\*CHS IBM Simplified Chinese.

\*KOR IBM Korean (KS).

\*KSC Korean Industry standard.

### \*SCGS

The People's Republic of China National standard (GB).

### \*NONE

No double-byte translation is performed.

Top

---

## Record format (RCDFMT)

Specifies the record format(s) of records to be copied. The possible values are:

\*ALL All records (of all record formats) in the database file are to be copied.

### *record-format-name*

Specify the name of a record format if you want only records with that specific record format to be copied.

Top

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## Examples

None

Top

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## Error messages

### \*ESCAPE Messages

**IWS1612**

Member &1 not copied to PC document.

Top



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## Copy To PCF File (CPYTOPCFF)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Copy to Portable Compiled Format font file (CPYTOPCFF) command copies all of user-defined DBCS character fonts contained in a double-byte character set (DBCS) font table to an existing PCF font file. During the copy operation, a dot matrix conversion is automatically performed. See the description for the Copy From PCF File (CPYFRMPCFF) command for a table that lists the supported dot matrix conversions. There is also a table that lists the maximum number of user-defined DBCS character fonts that can be copied for each type of DBCS font table.

**Restrictions:** You must have the following authority:

1. \*USE authority to the CPYIGCTBL, CRTPE, CHKIN and CHKOUT commands.
2. \*USE authority to the DBCS font table.
3. \*X authority to directories in the PCF file path name prefix.
4. \*RW authority to the PCF font file.

Top

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### Parameters

Keyword	Description	Choices	Notes
FROMIGCTBL	From DBCS font table	QIGC2424, QIGC2424K, QIGC2424C, QIGC2424S, QIGC3232, QIGC3232S	Required, Positional 1
TOPCFF	To PCF file	<i>Path name</i>	Required, Positional 2
RPLFNT	Replace font	*NO, *YES	Optional

Top

---

### From DBCS font table (FROMIGCTBL)

Specifies the name of the DBCS font table from which all user-defined DBCS character fonts are copied.

This is a required parameter.

#### QIGC2424

The Japanese DBCS font table used for displaying and printing extension characters in a 24-by-24 dot matrix font.

#### QIGC2424C

The Traditional Chinese DBCS font table used for printing extension characters in a 24-by-24 dot matrix font.

#### QIGC2424K

The Korean DBCS font table used for printing extension characters in a 24-by-24 dot matrix font.

#### QIGC2424S

The Simplified Chinese DBCS font table used for printing extension characters in a 24-by-24 dot matrix font.

## QIGC3232

The Japanese DBCS font table used for displaying and printing extension characters in a 32-by-32 dot matrix font.

## QIGC3232S

The Simplified Chinese DBCS font table used for printing extension characters in a 32-by-32 dot matrix font.

## QIGCrrcl

The name of the DBCS font table to be copied must always be in the format QIGCrrcl, where *rr* is the table row matrix size, *cc* is the table column matrix size, and the letter *l* is an optional language identifier.

Top

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## To PCF file (TOPCFF)

Specifies the path name of the PCF file to which user-defined character fonts are copied. The PCF file and all directories in the path name must exist. The PCF file is a stream file object, and it must be a user-defined character set with UCS-2 encoding.

This is a required parameter.

Top

---

## Replace font (RPLFNT)

Specifies whether user-defined DBCS character fonts in the specified PCF font file are replaced with those from the specified DBCS font table.

**\*NO** The system does not replace user-defined DBCS character fonts in the PCF font file with those from the specified DBCS font table.

**\*YES** The system replaces user-defined DBCS character fonts in the PCF font file with those from the specified DBCS font table.

Top

---

## Examples

### Example 1: Copying Without Replacing Existing Fonts

```
CPYTOPCFF QIGC2424
          '/QIBM/ProdData/NetworkStation/fonts/pcf/IBM_JPN12.pcf'
          RPLFNT(*NO)
```

This command copies all user-defined DBCS character fonts contained in the Japanese DBCS font table QIGC2424 (24-by-24 dot matrix font) to the Japanese PCF file named IBM\_JPN12.pcf (16-by-16 dot matrix font) in directory /QIBM/ProdData/NetworkStation/fonts/pcf. Only user-defined DBCS character fonts that are not found in the PCF file are copied. During the copy operation, user-defined DBCS character fonts are converted from 24-by-24 dot matrix to 16-by-16 dot matrix.

### Example 2: Copying Replacing Existing Fonts

```
CPYTOPCFF QIGC2424C
          '/QIBM/ProdData/NetworkStation/fonts/pcf/Chtpc23.pcf'
          RPLFNT(*YES)
```

This command copies all user-defined DBCS character fonts contained in the Traditional Chinese DBCS font table QIGC2424C (24-by-24 dot matrix font) to the Traditional Chinese PCF file named Chtpc23.pcf (32-by-32 dot matrix font) in directory /QIBM/ProdData/NetworkStation/fonts/pcf. User-defined DBCS character fonts in the PCF file are replaced with those found on the DBCS font table. During the copy operation, user-defined DBCS character fonts are converted from 24-by-24 dot matrix to 32-by-32 dot matrix.

[Top](#)

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## Error messages

### \*ESCAPE Messages

#### CPF7A7

&1 command ended due to error.

[Top](#)





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## Copy To Stream File (CPYTOSTMF)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Copy To Stream File (CPYTOSTMF) command copies either a database file member or a save file to a stream file. Optional conversion of the data and reformatting is performed when copying a database file member. This command cannot be used to copy to or from a database file member on a remote system. Any overrides in effect for the database file member or the save file are not used by this command.

This command can operate on regular files and on the /dev/null character special file. A regular file is a file that supports the integrated file system input/output (I/O) operations open, read, and write.

For more information about integrated file system commands, see the Integrated file system topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

### Restrictions:

- The database-member-path-name must be of the form **name.object-type**. For example, **/QSYS.LIB/LIBA.LIB/FILEA.FILE/MBRA.MBR** is the form required by the QSYS.LIB file system.
- The save-file-path-name must be of the form **name.object-type**. For example, **/QSYS.LIB/LIBA.LIB/SAVEFILEA.FILE** is the form required by the QSYS.LIB file system.
- The user must have the following authorities:
  - Execute (\*X) authority to directories in the path name prefix of the database file, save file, stream file or conversion table.
  - Read and execute (\*RX) authority to the database file or save file.
  - Write (\*W) authority to the stream file if the stream file already exists.
  - Write and execute (\*WX) authority to the stream file's parent directory if the stream file does not already exist.
  - If a conversion table was specified, read (\*R) authority to the conversion table.
  - If AUT(\*FILE) or AUT(\*INDIRFILE) is specified, object management (\*OBJMGT) to the database file and the stream file.

Top

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## Parameters

Keyword	Description	Choices	Notes
FROMMBR	From file member or save file	<i>Path name</i>	Required, Positional 1
TOSTMF	To stream file	<i>Path name</i>	Required, Positional 2
STMFOPT	Stream file option	*NONE, *ADD, *REPLACE	Optional
CVTDTA	Data conversion options	*AUTO, *TBL, *NONE	Optional
DBFCCSID	Database file CCSID	1-65533, *FILE	Optional
STMFCCSID	Stream file CCSID	1-65533, *STMF, *PCASCII, *STDASCII	Optional
TBL	Conversion table	<i>Path name</i>	Optional
ENDLINFMT	End of line characters	*CRLF, *LF, *CR, *LFCR, *FIXED	Optional

Keyword	Description	Choices	Notes
AUT	Authority	*DFT, *INDIR, *FILE, *INDIRFILE	Optional
STMFCODPAG	Stream file code page	1-32767, *STMF, *PCASCII, *STDASCII	Optional

Top

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## From file member or save file (FROMMBR)

Specifies the path name of the database file member or save file from which data is copied. When copying from a member, the file may be a source physical file or a program-described physical file. Source physical files with multiple data fields are not supported.

If the database file is a source physical file, the sequence number and date stamp are removed when the records are written to the stream file.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## To stream file (TOSTMF)

Specifies the path name of the stream file to which data is copied. All directories in the path name must exist. New directories are not created. If the stream file does not exist, it is created.

This command can operate on files of type \*STMF and on the /dev/null character special file.

**Note:** The QSYS.LIB and independent ASP QSYS.LIB file systems do not allow attributes to be set, so if the path name specified on the TOSTMF parameter is a QSYS member, diagnostic messages will appear in the joblog. The diagnostic messages will not prevent the copy operation from completing successfully and can be ignored.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## Stream file option (STMFOPT)

Specifies whether the copy operation replaces, adds, or fails to copy the records in a stream file if a stream file with the specified name already exists. If the stream file does not exist, it is created.

### \*NONE

No records are copied and the operation will fail.

**\*ADD** The records are added to the end of the existing stream file records.

This value is not allowed when copying a save file.

**\*REPLACE**

The records replace the existing stream file records.

Top

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## Data conversion options (CVTDTA)

Specifies the process for converting the data from the database file member to the stream file.

This parameter is ignored when copying a save file.

**\*AUTO**

The data is converted during the copy operation using the coded character set identifier (CCSID) of the stream file and the database file CCSID.

**\*TBL** The data is converted using a conversion table. Only single-byte character sets are supported. The conversion table must be specified by the **Conversion table (TBL)** parameter. If a conversion table is not available, the operation will fail.

**\*NONE**

Only the removal of the sequence numbers and date stamp from source physical files and the optional insertion of specified line-formatting characters into the stream file are performed. Database file CCSID to stream file CCSID conversion of other characters is not performed.

Top

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## Database file CCSID (DBFCCSID)

Specifies the method of obtaining the database file CCSID.

This parameter is ignored when copying a save file.

**\*FILE** The database file CCSID is used, unless it is 65535. If the database file CCSID is 65535, and the file is not a program-described file, the operation will fail. If the database file CCSID is 65535, and the file is a program-described file, the default job CCSID is used.

**1-65533**

Specify the database file coded character set identifier (CCSID).

Top

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## Stream file CCSID (STMFCCSID)

Specifies the method of obtaining the stream file coded character set identifier (CCSID) used for data conversion.

This parameter is ignored when copying a save file.

This parameter can not be specified with the **Stream file code page (STMFCODPAG)** parameter.

**\*STMF**

If the stream file exists, and data conversion is requested, the CCSID associated with the stream file is used to perform the conversion.

If the stream file does not exist, the source database file CCSID is used and associated with the stream file.

#### **\*STDASCII**

A CCSID in the IBM PC Data encoding scheme (x2100) is computed. If the stream file exists, and the stream file CCSID is not the same as the computed value, the operation will fail.

If the stream file does not exist, the computed CCSID is associated with the target stream file and is used for data conversion if it is requested.

#### **\*PCASCII**

A CCSID in the Microsoft Windows encoding scheme (x4105) is computed. ("Microsoft" and "Windows" are registered trademarks of Microsoft Corporation). If the stream file exists, and the stream file CCSID is not the same as the computed value, the operation will fail.

If the stream file does not exist, the computed CCSID is associated with the target stream file and is used for data conversion if it is requested. This option allows the resulting data to be used by Microsoft Windows applications.

#### **1-65533**

Specify the CCSID used. If the stream file exists, this option is only valid if the CCSID associated with the stream file is the same as the specified value. Otherwise, the operation will fail. If the stream file does not exist, the specified CCSID is associated with the stream file when it is created.

Top

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## **Conversion table (TBL)**

Specifies the path name of the conversion table used to convert data from the database file member to the stream file.

**Note:** This parameter is required and valid only if CVTDTA(\*TBL) is specified. This parameter is ignored when copying a save file.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## **End of line characters (ENDLINFMT)**

Specifies the end-of-line characters to insert into the stream file during the copying of records.

This parameter is ignored when copying a save file.

If one of the end-of-line character options is selected (ENDLINFMT(\*FIXED) is not specified) the database file records are transformed to variable-length stream file text lines as they are copied. Each database file record is trimmed of any trailing blanks. Then, the data is converted to the destination data format (if specified) and the end-of-line character is appended to the end of the text line. The text line is copied to the stream file.

**\*CRLF**

Carriage-return followed by line-feed is appended to the end of each line.

**\*LF**

Line-feed is appended to the end of each line.

**\*CR**

Carriage-return is appended to the end of each line.

**\*LFCR**

Line-feed followed by carriage-return is appended to the end of each line.

**\*FIXED**

The lines in the stream file are written as fixed length records. CR and LF characters are not added at the end of each line, trailing blanks are not removed from the end of each record. The length of the stream file records equals the length of the database file records.

If CVTDTA(\*AUTO) is specified, the converted data will not be allowed to contract or expand. Therefore, the encoding schemes of the stream file CCSID and database file CCSID must be compatible. For example, if a stream file had a single-byte encoding scheme and the database file had a double-byte encoding scheme, the command will fail.

Top

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## Authority (AUT)

Specifies the method used to assign authority information to the stream file.

This parameter is ignored if the stream file already exists.

**\*DFT**

The owner of the stream file will be granted \*RWX data authority to the stream file. The primary group and \*PUBLIC will have \*NONE data authority to the stream file. Object authorities will be based on the object authorities for the directory where the stream file is to be created. The auditing value of the database file will be copied to the stream file.

**\*INDIR**

The authority information for the stream file is based on the authority for the directory where the stream file is to be created. The stream file is assigned the same public authority, private authorities, primary group, primary group authority, and authorization list as the directory in which it is created. The auditing value assigned to the stream file is controlled by the directory's create object auditing value. If the target file system does not support the \*INDIR special value, the command will fail.

**\*FILE**

The authority information for the stream file is based on the authority for the object specified on the **From file member or save file (FROMMBR)** parameter. The stream file is assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the member or save file being copied. If the target file system does not support one or more of these values, the unsupported values will be ignored.

**\*INDIRFILE**

The authority information for copied objects is initially based on the authority for the directory where the objects are to be created. Then, authority information from the object specified on the **FROMMBR** parameter will be copied to the target object. The stream file is assigned the same public authority, private authorities, primary group, primary group authority, authorization list, and auditing value as the member or save file being copied, as well as any additional private authorities obtained from the directory. The resulting authority information will be similar to that produced by copying and pasting objects using the System i Navigator. If the target file system does not support the \*INDIRFILE special value, the command will fail.

Top

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## Stream file code page (STMFCODPAG)

Specifies a code page value to be used when determining the stream file coded character set identifier (CCSID).

This parameter is ignored when copying a save file.

This parameter can not be specified with the **Stream file CCSID (STMFCCSID)** parameter.

**Note:** This parameter is replaced by STMFCCSID but the STMFCODPAG parameter can still be used. However, because this parameter may be removed in a later release, use the STMFCCSID parameter whenever possible.

### \*STMF

If this value is specified, no code page processing is performed.

### \*STDASCII

A CCSID in the IBM PC Data encoding scheme (x2100) is computed. If the stream file exists, and the stream file CCSID is not the same as the computed value, the operation will fail.

If the stream file does not exist, the computed CCSID is associated with the target stream file and is used for data conversion if it is requested.

### \*PCASCII

A CCSID in the Microsoft Windows encoding scheme (x4105) is computed. ("Microsoft" and "Windows" are registered trademarks of Microsoft Corporation). If the stream file exists, and the stream file CCSID is not the same as the computed value, the operation will fail.

If the stream file does not exist, the computed CCSID is associated with the target stream file and is used for data conversion if it is requested. This option allows the resulting data to be used by Microsoft Windows applications.

### 1-32767

Specify the code page used. A CCSID is computed from this value. If the stream file exists, this option is only valid if the CCSID associated with the stream file is the same as the computed value. Otherwise, the operation will fail. If the stream file does not exist, the computed CCSID is associated with the stream file when it is created.

Top

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## Examples

### Example 1: Copying Data from a Database File Member to a Stream File

```
CPYTOSTMF FROMMBR('/QSYS.LIB/MYLIB.LIB/MYFILE.FILE/MYMBR.MBR')
          TOSTMF('STMF.TXT')
```

This command copies the data contained in database file member /QSYS.LIB/MYLIB.LIB/MYFILE.FILE/MYMBR.MBR to a stream file named STMF.TXT in the current working directory. The database file member records are stripped of trailing blanks, and CR and LF characters are inserted at the end of each record since ENDLINFMT(\*CRLF) is the default value. If the stream file STMF.TXT already exists in the current working directory, the copy operation is not performed since STMFOPT(\*NONE) is the default value. Data conversion will not be performed because the stream file will be created with the same CCSID as the database file.

### Example 2: Copying Data from a Database File Member to a Stream File Using a Conversion Table

```

CPYTOSTMF FROMMBR('/QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR')
          TOSTMF('/MYDIR/FINANCE.MNG') CVTDTA(*TBL)
          DBFCCSID(37) STMFCCSID(437)
          TBL('/QSYS.LIB/QUSRSYS.LIB/TBL1.TBL')
          ENDLINFMT(*CRLF)

```

This command copies the data contained in database file member /QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR to a stream file named FINANCE.MNG in the user directory /MYDIR. The data is converted using the conversion table TBL1.TBL contained in the directory /QSYS.LIB/QUSRSYS.LIB. The records in the database file member are trimmed of any trailing blanks as represented in the specified database CCSID (37), appended with CR and LF characters, and written to the stream file. The inserted line-formatting characters: CR and LF, correspond to those of CCSID 437 specified on the STMFCCSID parameter. If the stream file exists, it must have a CCSID of 437.

### Example 3: Copying Data from a Database File Member to a Stream File Without Data Conversion

```

CPYTOSTMF FROMMBR('/QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR')
          TOSTMF('/MYDIR/FINANCE.MNG') CVTDTA(*NONE)
          ENDLINFMT(*FIXED)

```

This command copies the data contained in database file member /QSYS.LIB/FINANCE.LIB/STAFF.FILE/MNGR.MBR to the stream file FINANCE.MNG in the user directory MYDIR without data conversion. The stream file data is written as fixed-length records of the same length as the database file records. No line-formatting characters are inserted since ENDLINFMT(\*FIXED) is specified.

### Example 4: Copying Data from a Save File to a Stream File

```

CPYTOSTMF FROMMBR('/QSYS.LIB/PACKAGE.LIB/SOFTWARE.FILE')
          TOSTMF('/MYDIR/SOFTWARE')

```

This command copies the data contained in save file /QSYS.LIB/PACKAGE.LIB/SOFTWARE.FILE to the stream file /MYDIR/SOFTWARE. The stream file data is written as fixed-length records of the same length as the save file records. No line-formatting characters are inserted, nor is any data conversion performed.

### Example 5: Copying Data and Authority Information from a Database File Member to a Stream File

```

CPYTOSTMF FROMMBR('/QSYS.LIB/MYLIB.LIB/MYFILE.FILE/MYMBR.MBR')
          TOSTMF('STMF.TXT') AUT(*FILE)

```

This command performs the same processing as the first example. In addition, the stream file is assigned the same public, private and primary group authority, authorization list, primary group, and auditing value as the member being copied.

Top

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## Error messages

### \*ESCAPE Messages

#### CPFA085

Home directory not found for user &1.

**CPFA097**

Object not copied. Object is &1.

Top



# Copy To Tape (CPYTOTAP)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Copy To Tape (CPYTOTAP) command copies records to a tape file. The to-file must be a tape file. The from-file can be a physical, logical, DDM, tape, or inline data file.

**Note:** For more information on DDM files, see the Distributed database programming topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

This command offers a subset of the parameters available on the Copy File (CPYF) command, along with more specific tape-oriented parameters.

## Restrictions:

- A file's open data path (ODP) cannot be shared with any other program in the job (routing step) during the copy operation.

Top

## Parameters

Keyword	Description	Choices	Notes
FROMFILE	From file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: From file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
TOFILE	Tape file	<i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: Tape file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
FROMMBR	From member	<i>Generic name, name, *FIRST, *ALL</i>	Optional
TOSEQNBR	File sequence number	1-16777215, <i>*TAPE, *END</i>	Optional
TOLABEL	Tape label	<i>Character value, *FROMMBR, *TAPE, *NONE</i>	Optional
TODEV	Device	Single values: <i>*TAPF</i> Other values (up to 4 repetitions): <i>Name</i>	Optional
TOREELS	Copy to reels	<i>Element list</i>	Optional
	Element 1: Label processing type	<i>*TAPF, *SL, *NL, *LTM</i>	
TORCDLEN	Record length	<i>Integer, *TAPF, *CALC, *FROMFILE</i>	Optional
TOENDOPT	End of tape option	<i>*TAPF, *REWIND, *UNLOAD, *LEAVE</i>	Optional
TOVOL	Volume identifier	Single values: <i>*TAPF, *NONE</i> Other values (up to 50 repetitions): <i>Character value</i>	Optional
TOBLKLEN	Block length	1-524288, <i>*TAPE, *CALC</i>	Optional
TORCDBLK	Record block type	<i>*TAPF, *F, *FB, *V, *VB, *D, *DB, *VS, *VBS, *U</i>	Optional
TOEXPDATE	File expiration date	<i>Date, *TAPF, *PERM</i>	Optional
NBRRCDS	Number of records to copy	<i>Unsigned integer, *END</i>	Optional
COMPACT	Data compaction	<i>*TAPF, *NO</i>	Optional

---

## From file (FROMFILE)

Specifies the physical file, logical file, DDM file, tape file, or inline data file from which records are copied.

This is a required parameter.

### Qualifier 1: From file

*name* Specify the name of file to be copied.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

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## Tape file (TOFILE)

Specifies the file that receives the copied records.

This is a required parameter.

### Qualifier 1: Tape file

*name* Specify the name of the tape file to be used for the to-file.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

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## From member (FROMMBR)

Specifies the database members or the identifiers of the tape files to be copied from the from-file. If the from-file is a spooled inline file, \*FIRST must be specified for this parameter.

#### **\*FIRST**

The first member of the specified file is used.

**\*ALL** All members of a database from-file are copied. FROMMBR(\*ALL) is not valid for a tape file or inline data file.

*generic-name*

Specify the generic name of the set of database members to be copied. A generic name is not valid for a tape file or inline data file.

*name*

Specify the name of the database file member or the label of a tape data file that is to be copied. If the tape label identifier of the tape file to be copied contains special characters or is greater than ten characters in length, then it must be specified on the CRTTAPF, CHGTAPF, or OVRTAPF command for the device file.

Top

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## File sequence number (TOSEQNBR)

Specifies the sequence number of the data file that receives the copied records.

**\*TAPF** The sequence number specified in the tape file is used.

**\*END** Records are copied until the end-of-file condition is indicated.

For a labeled tape file, the label specified on the TOLABEL parameter must be found at this sequence number. Valid sequence numbers range from 1 through 16777215.

If a new data file is added to the tape to-file, the sequence number must be one higher than the sequence number of the last data file on that volume. No gaps are allowed in the series of sequence numbers. If a sequence number of an existing data file is specified, that file is overwritten, and all following files on the volume are destroyed.

**1-16777215**

Specify the sequence number of the data file that receives the copied records.

Top

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## Tape label (TOLABEL)

Specifies the label of the data file that receives the copied records. This data file identifier is ignored for a nonlabeled tape.

**\*FROMMBR**

The receiving data file in the to-file has the same label as the member/label copied from the from-file. If a member/label name was specified as a value for the FROMMBR parameter (or implied by (\*TAPF)), then a data-file with the same name in the tape to-file receives the copied records. If a generic name or \*ALL is specified as a value for the FROMMBR parameter, then this value is not valid.

If the from-file is a nonlabeled tape file, a label identifier is created for the tape to-file in the form of CPYnnnnn, where nnnnn is the tape sequence number of the data file.

**\*TAPF** The label value specified in the tape file or on an override is used to identify the label that receives the copied records.

**\*NONE**

No data file identifier is specified. \*NONE is not valid if the to-file tape has standard labels.

*character-value*

Specify the label value that identifies the tape data file to receive the copied records.

Top

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## Device (TODEV)

Specifies the names of devices that are used to copy records to the tape to-file.

### Single values

**\*TAPF** The devices specified in the tape file description are used.

### Other values (up to 4 repetitions)

*name* Specify the names of up to four tape devices, one virtual tape device, or one media library device used when writing records to the tape to-file. The order in which the device names are specified is the order in which tapes on the devices are successively written to the tape to-file. Each device must have been defined in a device description (by using the Create Device Description (CRTDEVD) command) before being specified on this command.

Top

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## Copy to reels (TOREELS)

Specifies the type of labeling used on the tape reels that receive the copied records. This system writes only to standard-label tape or to nonlabeled tapes.

**\*TAPF** The value specified in the tape file for the to-file is used.

**\*SL** The volume used for receiving copied records has standard labels.

**\*NL** The volume used has no labels. Tape marks are used to indicate the end of each volume and the data file on each volume.

**\*LTM** The volume used has no labels, but has a leading tape mark before the first data record.

Top

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## Record length (TORCDLEN)

Specifies (in bytes) the length of the records that are written on the tape to-file. The records in the from-file may be truncated or padded with blanks to conform to the record length specified before they are written to the tape. If an existing data file (with standard labels) is being extended on tape, the record length is obtained from the second header label (HDR2). The record length, block length and record block format must be consistently specified. If a new data file is being added or if it is a nonlabeled file, the record length must be explicitly specified by this parameter or by the RCDLEN parameter in one of the tape device file commands.

### **\*FROMFILE**

The record length for the to-file is the same as the record length of the from-file. If the from-file has a variable record length, the maximum record length of the from-file is used as the record length of the to-file.

**\*TAPF** The record length defined in the tape file is used.

### **\*CALC**

The record length from the existing data file label is used.

### *record-length*

Specify the record length ranging from 1 through 32767 bytes that is used for records that are written to the to-file. The record length must be consistent with the block length and the record block format values.

Top

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## End of tape option (TOENDOPT)

Specifies the positioning operation that is done automatically on the last tape volume of the to-file when the tape device-file is closed. For a multivolume tape to-file, all intermediate reels are positioned by specifying the \*UNLOAD value. This only applies to the last reel.

**\*TAPF** The tape is repositioned according to the value specified in the tape file.

**\*REWIND**

The tape is rewound, but not unloaded.

**\*UNLOAD**

The tape is automatically rewound and unloaded after the operation ends.

**\*LEAVE**

The tape does not rewind or unload after the operation ends. It remains at the current position on the tape drive.

Top

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## Volume identifier (TOVOL)

Specifies, for tapes with standard labels, one or more volume identifiers of the tapes that are used when copying records to the tape to-file. The tape volumes must be placed in the device in the same order as the identifiers are specified. A message is sent to the operator if they are not.

### Single values

**\*TAPF** The tape volume identifiers in the tape file are used.

**\*NONE**

No tape volume identifiers are specified for this file. No volume checking is done beyond verifying that a volume with the correct label type is on the device.

### Other values (up to 50 repetitions)

*character-value*

Specify up to 50 volume identifiers used to identify the tapes to receive the copied records. The tape volumes must be on the device in the same order as the identifiers are specified and in the same order as the device names are specified on the TODEV parameter. A message is sent to the operator if they are not. Each identifier can have up to 6 alphanumeric characters.

Top

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## Block length (TOBLKLEN)

Specifies (in bytes) the length of data blocks transferred to the tape. The block length must be consistent with the record length and record block format values.

**\*TAPF** The block length value from the tape file is used.

**\*CALC**

No block length is specified for the tape to-file. The block length from the existing data file label is used.

**18-524288**

Specify the maximum length of the data block written to the tape.

---

## Record block type (TORCDBLK)

Specifies the record format and blocking attributes of records that are copied to the tape to-file. The record block format from an existing data file label is used if an existing data file is being extended as the to-file. The record length, block length, and record block format parameters must be consistently specified.

**\*TAPF** The record block format value from the tape file is used.

**\*F** Fixed-length, deblocked records in either EBCDIC or ASCII format are used.

**\*FB** Fixed-length, blocked records in either EBCDIC or ASCII format are used.

**\*V** Variable-length, deblocked records in EBCDIC format are used.

**\*VB** Variable-length, blocked records in EBCDIC format are used.

**\*D** Variable-length, deblocked records in ASCII type D format are used.

**\*DB** Variable-length, blocked records in ASCII type D format are used.

**\*VS** Variable, spanned records are used.

**\*VBS** Variable, spanned blocked records are used.

**\*U** Records in an undefined format are used.

Top

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## File expiration date (TOEXPDATE)

Specifies the expiration date for the data file that is being added to the to-file. The data file expiration date is established for standard label tape files only and is stored in the tape header label immediately preceding the data file that the label describes.

**\*TAPF** The expiration date from the tape file is used for the to-file.

**\*PERM**

The data file being added is protected permanently.

*date* Specify the expiration date that is used for the data file. The date must be specified in the format defined by the system values QDATFMT and, if separators are used, QDATSEP.

Top

---

## Number of records to copy (NBRRCDS)

Specifies the number of records copied to the to-file.

**\*END** Records are copied until the end-of-file condition is indicated.

**1-4294967288**

Specify the number of records to copy. Fewer records are copied if an end-of-file condition occurs before the specified number of records have been copied.

Top

---

## Data compaction (COMPACT)

Specifies whether device data compaction is performed. If the tape device used by the to-file does not support data compaction, this parameter is ignored.

**\*TAPF** To-file device data compaction is performed only if the device used by the to-file supports data compaction.

**\*NO** To-file device data compaction is not performed.

Top

---

## Examples

### Example 1: Copying the First Member in a Database File to Tape

```
CPYTOTAP FROMFILE(MYLIB/MYFILE) TOFILE(QTAPE) TODEV(QTAPE1)
TORCDLEN(*FROMFILE) TOEXPDATE(10 15 89)
```

This command copies the first member in database file MYFILE in library MYLIB to tape. The tape device file QTAPE is used which has attributes of SEQNBR(1) and RCDBLKFM(\*F), which are used as defaults for parameters TOSEQNBR and TORCDBLK. The additional attributes specified on the copy command include the tape device name and the expiration date of the file written on tape. The label name used on tape is the same name as that of the member copied. The record length of the tape file is also the same as the database from-file record length since TORCDLEN (\*FROMFILE) was specified.

### Example 2: Copying a Member in a Database File to Tape

```
CPYTOTAP FROMFILE(MYLIB/MYFILE) TOFILE(QTAPE) FROMMBR(M1)
TOLABEL(BACKUPM1) TODEV(QTAPE1) TORCDLEN(50)
TOBLKLEN(1000) TORCKBLK(*FB) TOENDOPT(*LEAVE)
```

This command copies member M1 from database file MYFILE in library MYLIB to tape, using tape device file QTAPE. The records are copied to label BACKUPM1 on tape device QTAPE1 and the reel is left at its current position when the copy is completed. The data file written on tape has fixed-length 50-byte records that are blocked 1000 bytes (or 20 records) to a block.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF2816

File &1 in &2 not copied because of error.

#### CPF2817

Copy command ended because of error.

#### CPF2859

Shared open data path not allowed.

#### CPF2864

Not authorized to file &1 in library &2.

#### CPF2875

Wrong file member or label opened.

- CPF2904**  
Diskette labels not valid for multiple label copy.
- CPF2949**  
Error closing member &3 in file &1 in &2.
- CPF2952**  
Error opening file &1 in library &2.
- CPF2968**  
Position error occurred copying file &1 in &2.
- CPF2971**  
Error reading member &3 in file &1.
- CPF2972**  
Error writing to member &3 in file &1.
- CPF9212**  
Cannot load or unload DDM file &2 in &3.

Top



---

## Create Alert Table (CRTALRTBL)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Alert Table (CRTALRTBL) command creates an alert table for storing the alert description records. An alert table specifies the hardware and software products it is used for and defines alerts (problem notifications in a network). The typical user is the system or network programmer or operator responsible for network management. More information on alerts is in the Alerts Support book, SC41-5413 book.

Top

---

### Parameters

Keyword	Description	Choices	Notes
ALRTBL	Alert table	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Alert table	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
LICPGM	Product	<i>Character value, 5769SS1, *NONE</i>	Optional
LICPGMTXT	Licensed program text	<i>Character value, *BLANK</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

---

### Alert table (ALRTBL)

Specifies the qualified name of the alert table being created. Each alert table contains alert descriptions that are used to create alerts. An alert table has a one-to-one correspondence with a message file. To define an alert for a particular message, the name of the alert table must be the same as the name of the message file.

**Note:** The alert table and message file do not have to be in the same library; however, the alert table library must be in the library list of the job that causes the alert to be created.

This is a required parameter.

The possible library values are:

#### \*CURLIB

The current library for the job is used to locate the alert table. If no current library entry exists in the library list, QGPL is used.

#### *library-name*

Specify the library where the alert table is located. Only the library named is searched. The user must have READ and ADD authority for the specified library.

Top

---

## Product (LICPGM)

Specifies the licensed program associated with this alert table. This program is included in the alert as software product identification for the alert sender.

### 5761SS1

The product identifier for the IBM i5/OS.

### **\*NONE**

No licensed program is specified. This value allows programs that are not defined in the software resource management database of the system. No software product identification is present in the alert for the alert sender.

### *licensed-program*

Specify a 7-character product identifier for the licensed product. The Alert Manager uses this ID to access the software resource management database for release and level information.

**Note:** This parameter does not have to be an IBM Licensed Program. Any 7-character ID that is meaningful to the use of the Work with Alerts command can be specified. If the value given for the LICPGM parameter is defined to the system, the ID and release and level information are included in the alert.

Top

---

## Licensed program text (LICPGMTXT)

Specifies descriptive text for the alert table licensed program parameter (for example, 'IBM i5/OS'). The text is included in the alert as software product identification for the alert sender.

### \*BLANK

No text is specified.

### *licensed-program-text*

Specify up to 30 characters of text describing the program.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is to be specified.

### *'description'*

Specify no more than 50 characters, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified on the **Create authority** prompt (CRTAUT parameter) on the Create Library (CRTLIB) command for the library

containing the object to be created. If the value specified on the CRTAUT parameter is changed, the new value does not affect any existing objects.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### ***authorization-list-name***

Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

---

## **Examples**

```
CRTALRTBL  ALRTBL(ALRTBLLIB/ALRTBLNBR1) LICPGM(5716SS1)
           LICPGMTXT('IBM i5/OS')
           TEXT('This is the first alert table created')
```

This command creates an alert table in the library ALRTBLLIB called ALRTBLNBR1. The public has \*CHANGE authority to the table. The licensed program associated with this ALRTBL is the System IBM i5/OS.

Top

---

## **Error messages**

### **\*ESCAPE Messages**

#### **CPF2108**

Object &1 type \*&3 not added to library &2.

#### **CPF2112**

Object &1 in &2 type \*&3 already exists.

#### **CPF2113**

Cannot allocate library &1.

#### **CPF2151**

Operation failed for &2 in &1 type \*&3.

#### **CPF2182**

Not authorized to library &1.

**CPF2283**

Authorization list &1 does not exist.

**CPF9810**

Library &1 not found.

**CPF9820**

Not authorized to use library &1.

[Top](#)

---

## Create Authority Holder (CRTAUTHLR)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create Authority Holder (CRTAUTHLR) command allows a user to create an authority holder to secure an object of type \*FILE before it exists on the system. The file must be a program-described database file. When an object by the specified name is created, the authorities specified in the authority holder are linked to the newly created object.

The authority holder is associated with one specific object, object type, and library. This allows only users with the correct authority to access the object. The authority holder and associated object always have the same owner.

If the object has authorities associated with it, they are linked to the newly created authority holder. The owner of the object becomes the owner of the authority holder. Authority holders are located in library QSYS.

### Restrictions:

- This command is shipped with public \*EXCLUDE authority.
- The object type to be secured by the new authority holder is limited to \*FILE. The file must be a program-described database file.
- The authority holder cannot be created for objects located in libraries QRCL, QRECOVERY, QSPL, QSPLxxxx, QSYS, or QTEMP.
- Authority holders can only secure files in the system auxiliary storage pool (ASP) or a basic user ASP.

[Top](#)

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## Parameters

Keyword	Description	Choices	Notes
OBJ	Object	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Object	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
AUT	Authority	<i>Name</i> , *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE	Optional

[Top](#)

---

## Object (OBJ)

Specifies the database file that the authority holder secures when the object is created.

This is a required parameter.

### Qualifier 1: Object

*name* Specify the name to be given to the authority holder object.

### Qualifier 2: Library

*name* Specify the name of the library where the authority holder is created.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTAUTHLR OBJ(QGPL/FIL1) AUT(*EXCLUDE)
```

This command creates an authority holder for object FIL1 in library QGPL with \*EXCLUDE authority.

```
GRTOBJAUT OBJ(QGPL/FIL1) TYPE(*FILE) USER(TWO) AUT(*USE)
```

By running this command, \*USE authority is granted to user TWO for the authority holder that secures file FIL1 in library QGPL.

```
CRTSRCF FILE(QGPL/FIL1)
```

By running this command, user ONE creates a file that has a matching authority holder. User ONE becomes the owner of the file with user TWO having \*USE authority to QGPL/FIL1.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPC2212

Authority holder created.

#### CPF2122

Storage limit exceeded for user profile &1.

#### CPF2163

Creation of authority holder in &2 not allowed.

#### CPF22BA

Authority holder could not be created.

#### CPF22BC

Object &1 type &3 is not program defined.

#### CPF22B2

Not authorized to create or delete authority holder.

#### CPF22B5

Authority holder already exists.

#### CPF22B6

Authority holder could not be created.

#### CPF2283

Authorization list &1 does not exist.

#### CPF2289

Unable to allocate authorization list &1.

#### CPF9803

Cannot allocate object &2 in library &3.

Top





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## Create Authorization List (CRTAUTL)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Authorization List (CRTAUTL) command creates an authorization list. Authorization lists are used to give a set of users specific authorities to an object or a set of objects. Each user has the authorities to all of the objects. When an authorization list is granted authority to an object, the users on the list get authority to the object. The authorities they receive are those specified for them in the authorization list.

A user's authority on an authorization list can be overridden by granting the user specific authority to the object. Specific authorities override the user's authority specified in the authorization list. Specific authorities override the user's group authority, if both are specified.

If public authority specified for the object is \*AUTL, then the public authority specified on the authorization list is used.

### Restrictions:

- Authorization lists cannot be used to secure user profiles or other authorization lists.
- Only one authorization list can be used to secure an object.

Top

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## Parameters

Keyword	Description	Choices	Notes
AUTL	Authorization list	<i>Name</i>	Required, Positional 1
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>*CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional, Positional 2

Top

---

## Authorization list (AUTL)

Specifies the authorization list to be created.

This is a required parameter.

*name* Specify the name to be given to the authorization list object.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

\*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

Top

---

## Examples

```
CRTAUTL  AUTL(PROGMR)  AUT(*CHANGE)
          TEXT('Programmers authorization list')
```

This command creates an authorization list (PROGMR). If an object whose authority comes from the authorization list has specified USER(\*PUBLIC) as AUT(\*AUTL), the users who do not have specific authority and whose group does not have specific authority to the object are given \*CHANGE authority for the object secured by this authorization list.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF2122

Storage limit exceeded for user profile &1.

#### CPF22AD

Group profile for user not found.

#### CPF22A6

User creating an authorization list must have \*ADD authority to his user profile

**CPF2204**

User profile &1 not found.

**CPF2217**

Not authorized to user profile &1.

**CPF2222**

Storage limit is greater than specified for user profile &1.

**CPF2278**

Authorization list &1 already exists.

**CPF2289**

Unable to allocate authorization list &1.

[Top](#)



## Create Bound CL Program (CRTBNDCL)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Bound Control Language Program (CRTBNDCL) command creates an Integrated Language Environment (ILE) control language (CL) program from the specified CL source program.

Most of the parameters and options for the CRTBNDCL command are the same as the parameters and options for the Create Control Language Module (CRTCLMOD) command, with the exception of the **User profile (USRPRF)** parameter, which only exists on the CRTBNDCL command. Option \*NOGEN is not available on the CRTBNDCL command. The full compilation is always run.

Top

### Parameters

Keyword	Description	Choices	Notes
PGM	Program	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Program	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
SRCFILE	Source file	<i>Qualified object name</i>	Optional, Positional 2
	Qualifier 1: Source file	<i>Name, <u>QCLSRC</u></i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
SRCMBR	Source member	<i>Name, *PGM</i>	Optional, Positional 3
TEXT	Text 'description'	<i>Character value, *SRCMBRTXT, *BLANK</i>	Optional
DFACTGRP	Default activation group	<i>*YES, *NO</i>	Optional
ACTGRP	Activation group	<i>Name, *STGMDL, *NEW, *CALLER</i>	Optional
STGMDL	Storage model	<i>*SNGLVL, *TERASPACE</i>	Optional
OUTPUT	Output	<i>*PRINT, *NONE</i>	Optional, Positional 4
OPTION	Source listing options	Values (up to 3 repetitions): *XREF, *NOXREF, *SECLVL, *NOSECLVL, *EVENTF, *NOEVENTF	Optional, Positional 5
USRPRF	User profile	<i>*USER, *OWNER</i>	Optional
LOG	Log commands	<i>*JOB, *YES, *NO</i>	Optional
REPLACE	Replace program	<i>*YES, *NO</i>	Optional
TGTRLS	Target release	<i>Simple name, *CURRENT, *PRV</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional
SRTSEQ	Sort sequence	Single values: *HEX, *JOB, *JOB RUN, *LANGIDUNQ, *LANGIDSHR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Sort sequence	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
LANGID	Language ID	<i>Character value, *JOB RUN, *JOB</i>	Optional
OPTIMIZE	Optimization	<i>*NONE, *BASIC, *FULL, 10, 20, 30, 40</i>	Optional
DBGVIEW	Debugging view	<i>*STMT, *SOURCE, *LIST, *ALL, *NONE</i>	Optional

Keyword	Description	Choices	Notes
ENBPFCOL	Enable performance collection	*PEP, *FULL, *NONE	Optional
INCFILE	INCLUDE file	Single values: *SRCFILE Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: INCLUDE file	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	

Top

---

## Program (PGM)

Specifies the program to be created.

This is a required parameter.

### Qualifier 1: Program

*name* Specify the name of the program to be created.

### Qualifier 2: Library

#### \*CURLIB

The program is stored in the current library for the job. If no current library entry exists in the library list, QGPL is used.

*name* Specify the library where the program is to be stored.

Top

---

## Source file (SRCFILE)

Specifies the source file that contains the CL source member to be compiled.

### Qualifier 1: Source file

#### QCLSRC

The source file named QCLSRC, that contains the CL source member to be compiled, is used.

*name* Specify the name of the source file that contains the CL source member to be compiled. The source file can be a database file, a device file, or an inline data file.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is used to locate the source file. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library to be searched.

Top

---

## Source member (SRCMBR)

Specifies the name of the member of the source file that contains the CL source program to be compiled.

**\*PGM** The CL source program to be compiled is in the member of the source file that has the same name as that specified on the **Program (PGM)** parameter for the compiled program.

**name** Specify the name of the member that contains the CL source program, if the member name is not the same as the name of the program to be created.

Top

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## Text 'description' (TEXT)

Specifies text that briefly describes the compiled CL program.

### **\*SRCMBRTXT**

The text is taken from the source file member used to create the CL program. If the source file is an inline data file or a device file, the text is blank.

### **\*BLANK**

Text is not specified.

### **'description'**

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Default activation group (DFACTGRP)

Specifies whether the program is associated with the default activation group.

**\*YES** The program is associated with the default activation group.

**Note:** If this value is specified, the ACTGRP parameter cannot be specified.

**\*NO** The program is not associated with the default activation group.

Top

---

## Activation group (ACTGRP)

Specifies the activation group that the program is associated with when it is called. The activation group provides:

- Run-time data structures to support the running of programs
- Addressing protection
- A logical boundary for message creation
- A logical boundary for application cleanup processing

### **\*STGMDL**

IF STGMDL(\*SNGLVL) is specified, this program will be activated into the QILE activation group when it is called. If STGMDL(\*TERASPACE) is specified, the program will be activated into the QILETS activation group when it is called.

### **\*CALLER**

When this program gets called, the program is activated into the caller's activation group.

**\*NEW** When this program gets called, the system creates a new activation group.

**name** Specify the name of the activation group to be used when this program is called.

Top

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## Storage model (STGMDL)

Specifies the storage model attribute of the program.

### \*SNGLVL

The program is created with single-level storage model. When a single-level storage model program is activated and run, it is supplied single-level storage for automatic and static storage. A single-level storage program runs only in a single-level storage activation group.

### \*TERASPACE

The program is created with teraspace storage model. When a teraspace storage model program is activated and run, it is supplied teraspace storage for automatic and static storage. A teraspace storage program runs only in a teraspace storage activation group. STGMDL(\*TERASPACE) cannot be specified if DFTACTGRP(\*YES) is specified.

Top

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## Output (OUTPUT)

Specifies whether or not a compiler listing is produced.

### \*PRINT

The compiler listing is produced. The information contained in the listing will be dependent on the values specified for the **Source listing options (OPTION)** parameter.

### \*NONE

The compiler listing is not produced. When a listing is not required, this option should be used because compile-time performance may be better.

Top

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## Source listing options (OPTION)

Specifies the types of output lists created when this command is processed and whether a program is created. Up to three of the following values can be specified in any order on this parameter. If neither or both of the values in each group are specified, the underlined value will be used.

**Note:** The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the Change Command Default (CHGCMDDFT) command.

### Cross Reference Option

#### \*NOXREF

No cross-reference list of references to variable and data items in the source is created.

\*XREF A cross-reference listing of the source program is produced. OUTPUT(\*PRINT) must be specified.

### Second-Level Message Text Option

#### \*NOSECLVL

No second level message text is printed.

#### \*SECLVL

Second-level message text is printed. OUTPUT(\*PRINT) must be specified.

### Event File Creation Option



### **\*NOEVENTF**

The compiler will not produce an event file for use by the CoOperative Development Environment for i5/OS (CODE for i5/OS) product.

### **\*EVENTF**

The compiler produces an event file for use by the CODE for i5/OS product. The event file is created as a member in the file EVFEVENT in your source library. The CODE for i5/OS product uses this file to offer error feedback integrated with the CODE for i5/OS editor. This option is normally specified by the CODE for i5/OS product on your behalf.

Top

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## **User profile (USRPRF)**

Specifies whether the authority checking done while this program is running includes only the user who is running the program (\*USER) or both the user running the program and the program owner (\*OWNER). The profiles of the program user or both the program user and the program owner are used to control which objects can be used by the program, including the authority the program has for each object. Only the program owner or a user with QSECOFR authority can change the user profile attribute.

**Note:** This parameter is ignored if REPLACE(\*YES) is specified.

### **\*USER**

The program runs under the user profile of the program's user.

### **\*OWNER**

The user profiles of both the program's owner and the program's user are used when the program is processed. The collective sets of object authority in both user profiles are used to find and access objects during program processing. Authority from the owning user profile's group profile is not included in the authority for the running program.

Top

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## **Log commands (LOG)**

Specifies the logging options for a created CL program.

**\*JOB** Logging of commands in a running CL program depends on the status of the job's logging flag (see the LOGCLPGM parameter of the Change Job (CHGJOB) command). To list the logged commands, the logging level of the jobs must be 3 or 4.

A \*YES or \*NO value takes precedence over any value specified in the CHGJOB command.

**\*YES** The commands are logged in all cases.

**\*NO** The commands are not logged.

Top

---

## **Replace program (REPLACE)**

Specifies whether an existing program is replaced if a program with the same name already exists in the specified library.

**\*YES** The existing program is replaced by moving it to the QRPLOBJ library.

### **Notes:**

1. If a running CL program is recompiled with \*YES specified for the REPLACE parameter, message queue errors may occur in the running CL program.

2. Specifying \*YES on this parameter causes the values on the USRPRF and AUT parameters to be ignored. The existing program is used as the source of authority, and the user profile attribute is copied from the existing program to the new program. To change the profile you can use the Change Program (CHGPGM) command. To change the authority for the program you can use the Grant Object Authority (GRTOBJAUT) or Revoke Object Authority (RVKOBJAUT) command.

**\*NO** The existing program is not replaced. When a program with the same name exists in the specified library, a message is displayed and compilation stops.

Top

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## Target release (TGTRLS)

Specifies the release of the operating system on which you intend to use the object being created.

When specifying the **target-release** value, the format VxRxMx is used to specify the release, where Vx is the version, Rx is the release, and Mx is the modification level. For example, V5R3M0 is version 5, release 3, modification 0.

Valid values depend on the current version, release, and modification level of the operating system, and they change with each new release. You can press F4 while prompting this command parameter to see a list of valid target release values.

### \*CURRENT

The object is to be used on the release of the operating system currently running on your system. The object can also be used on a system with any subsequent release of the operating system installed.

**\*PRV** The object is to be used on the previous release with modification level 0 of the operating system. The object can also be used on a system with any subsequent release of the operating system installed.

### *character-value*

Specify the release in the format VxRxMx. The object can be used on a system with the specified release or with any subsequent release of the operating system installed.

Top

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## Authority (AUT)

Specifies the authority you are granting to the users who do not have specific authority for the object, who are not on the authorization list, and whose user group has no specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by

authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

**Note:** This parameter is ignored when REPLACE(\*YES) is specified.

Top

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## Sort sequence (SRTSEQ)

Specifies the sort sequence table to be used for string comparisons for this CL program. The sort sequence value is used with the language identifier and the coded character set identifier of the job to determine the sort sequence table to use.

### Single values

**\*HEX** A sort sequence table is not used. The hexadecimal values of the characters are used to determine the sort sequence.

**\*JOB** The sort sequence used is the SRTSEQ associated with the job when the CL program is created.

**\*JOBRUN**

The sort sequence used is the SRTSEQ associated with the job when the CL program is run.

**\*LANGIDUNQ**

The sort sequence table uses a unique weight for each character, and is the unique-weight sort table for the language specified for the LANGID parameter.

**\*LANGIDSHR**

The sort sequence table uses the same weight for multiple characters, and is the shared-weight sort sequence table associated with the language specified for the LANGID parameter.

### Qualifier 1: Sort sequence

**name** Specify the name of the sort sequence table to be used with this CL program.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

**name** Specify the name of the library to be searched.

Top

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## Language ID (LANGID)

Specifies the language identifier to be used when SRTSEQ(\*LANGIDUNQ) or SRTSEQ(\*LANGIDSHR) is specified.

### \*JOBRUN

The language ID used is the LANGID associated with the job when the CL program is run.

**\*JOB** The language ID used is the LANGID associated with the job when the CL program is created.

### *language-ID*

Specify the language identifier to be used by the job.

Top

---

## Optimization (OPTIMIZE)

Specifies the optimization level of the generated program code. ILE CL can not be optimized. For compatibility, values other than \*NONE are accepted, but no optimization will be performed. ILE CL modules and programs should not be used with system functions that require an optimization level higher than \*NONE.

### \*NONE

The generated code is not optimized. This value is the fastest level of optimization in terms of translation time. This level allows variables to be displayed and modified while debugging.

### **\*BASIC**

No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**\*FULL** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**10** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**20** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**30** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**40** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

Top

---

## Debugging view (DBGVIEW)

Specifies which level of debugging is available for the compiled program, and which source views are available for source-level debugging.

### \*STMT

The compiled program can be debugged using program statement numbers and symbolic identifiers.

**\*ALL** All of the debug options for debugging the compiled program can be used. The source and debug listing views are generated.

### **\*SOURCE**

The source view for debugging the compiled program is generated.

**\*LIST** The listing view for debugging the compiled program is generated.

**\*NONE**

None of the debug options for debugging the compiled program are available.

Top

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## Enable performance collection (ENBPFCOL)

This parameter is obsolete.

Top

---

## INCLUDE file (INCFILE)

Specifies the source file that contains members to be included in the program using Include CL Source (INCLUDE) commands.

### Single Values

**\*SRCFILE**

The source file specified for the **Source file (SRCFILE)** parameter contains the source file members specified on any CL INCLUDE commands.

### Qualifier 1: INCLUDE file

**name** Specify the name of the source file that contains the source file member specified on any CL INCLUDE commands.

The record length of the source file you specify here must be greater than or equal to the record length of the source file specified for the SRCFILE parameter.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is used to locate the source file. If no library is specified as the current library for the thread, the QGPL library is used.

**name** Specify the name of the library to be searched.

Top

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## Examples

### Example 1: Creating a Program to be Run by Any System User

```
CRTBNDCL  PAYROLL  TEXT('Payroll Program')
```

This command calls the ILE CL compiler to create a program named PAYROLL. The CL program or ILE CL procedure source is in the default source file QCLSRC in the member PAYROLL. A compiler listing is created. The program is processed under the program user's user profile and can be run by any system user.

### Example 2: Creating a Program to be Run by an Authorized User

```
CRTBNDCL  PGM(PARTS) SRCFILE(MYLIB/PARTDATA) AUT(*EXCLUDE)
          OUTPUT(*PRINT)
          TEXT('This program displays all parts data')
```

This command creates a CL program named PARTS and stores it in the current library. The source for the program is in the PARTS member of the source file PARTDATA in the library MYLIB. A compiler listing is created. This program can be processed under the profile of the user that is running the program, who could be the owner or another user to which the owner has granted specific authorization by name in the Grant Object Authority (GRTOBJAUT) command.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF0C33

Target release &1 not valid.

#### CPF0C35

Target release &1 is not a supported release.

#### CPF0807

File containing compiler printout not opened.

#### CPF0808

Error in compiler-created code.

#### CPF0814

Licensed Program 5761-SS1 Option 9 not installed.

#### CPF0815

CL program &1 in &2 cannot be created for previous release.

#### CPF0820

Program &1 not created.

#### CPF0849

Space addressing violation.

#### CPF3202

File &1 in library &2 in use.

#### CPF3203

Cannot allocate object for file &1 in &2.

#### CPF3224

Not authorized to perform operation on file &1.

Top

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## Create Binding Directory (CRTBNDDIR)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Binding Directory (CRTBNDDIR) command creates a binding directory object in the specified library.

### Restrictions:

- You must have read (\*READ) and add (\*ADD) authorities for the library where the binding directory is to be created.

Top

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## Parameters

Keyword	Description	Choices	Notes
BNDDIR	Binding directory	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Binding directory	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional

Top

---

## Binding directory (BNDDIR)

Specifies the binding directory to be created.

This is a required parameter.

### Qualifier 1: Binding directory

*name* Specify the name of the binding directory to be created.

### Qualifier 2: Library

#### \*CURLIB

The binding directory is created in the current library for the job. If no library is specified as the current library for the job, the QGPL library is used.

*name* Specify the name of the library where the binding directory is to be created.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Text 'description' (TEXT)

Specifies text that briefly describes the binding directory object.

### \*BLANK

Text is not specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Examples

```
CRTBNDDIR  BNDDIR(*CURLIB/DISPLAYS)
```

This command creates the binding directory named DISPLAYS in the job's current library, or QGPL library if there is no current library for the job.

Top



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## Error messages

### \*ESCAPE Messages

#### CPF5D0B

Binding directory &1 was not created

[Top](#)



# Create Configuration List (CRTCFGL)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create Configuration List (CRTCFGL) command creates a configuration list.

[Top](#)

## Parameters

Keyword	Description	Choices	Notes
TYPE	Configuration list type	*APPNDIR, *APPNLCL, *APPNRMT, *APPNSSN, *ASYNCADR, *ASYNCLOC, *RTLPASTR, *SNAPASTHR	Required, Positional 1
CFGL	Configuration list	<i>Name</i>	Optional
DFTFTRACN	Default filter action	*ACCEPT, *REJECT	Optional
APPNRMTFTR	APPN remote CFGL filter	*ACCEPT, *NONE	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
APPNLCL	APPN local location entry	Single values: *PROMPT Other values (up to 50 repetitions): <i>Element list</i>	Optional
	Element 1: Local location name	<i>Communications name</i>	
	Element 2: Entry 'description'	<i>Character value</i> , *BLANK	
APPNRMTE	APPN remote location entry	Single values: *PROMPT Other values (up to 50 repetitions): <i>Element list</i>	Optional
	Element 1: Remote location name	<i>Generic name, name</i> , *ANY	
	Element 2: Remote network identifier	<i>Communications name</i> , *NETATR, *NONE	
	Element 3: Local location name	<i>Communications name</i> , *NETATR	
	Element 4: Remote control point	<i>Communications name</i> , *NONE	
	Element 5: Control point net ID	<i>Communications name</i> , *NETATR, *NONE	
	Element 6: Location password	<i>Character value</i> , *NONE	
	Element 7: Secure location	*YES, *NO, *VFYENCPWD	
	Element 8: Single session	*YES, *NO	
	Element 9: Locally controlled session	*YES, *NO	
	Element 10: Pre-established session	*YES, *NO	
	Element 11: Entry 'description'	<i>Character value</i> , *BLANK	
	Element 12: Number of conversations	1-512, <u>10</u>	

Keyword	Description	Choices	Notes
ASYNCADRE	Async network address entry	Single values: <b>*PROMPT</b> Other values (up to 50 repetitions): <i>Element list</i>	Optional
	Element 1: Network address	<i>Character value</i>	
	Element 2: Dial retry	1-255, <u>2</u>	
	Element 3: Entry 'description'	<i>Character value, *BLANK</i>	
ASYNCLOCE	Async remote location entry	Single values: <b>*PROMPT</b> Other values (up to 50 repetitions): <i>Element list</i>	Optional
	Element 1: Remote location name	<i>Communications name</i>	
	Element 2: Remote location identifier	<i>Name</i>	
	Element 3: Entry 'description'	<i>Character value, *BLANK</i>	
RTLPASTRHRE	Retail pass-through entry	Single values: <b>*PROMPT</b> Other values (up to 50 repetitions): <i>Element list</i>	Optional
	Element 1: Retail device	<i>Name</i>	
	Element 2: SNUF device	<i>Name</i>	
	Element 3: Default host program	<i>Name</i>	
	Element 4: Entry 'description'	<i>Character value, *BLANK</i>	
AUT	Authority	<i>Name, *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT</i>	Optional

Top

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## Configuration list type (TYPE)

Specifies one of five possible configuration list types.

This is a required parameter.

### \*APPNDIR

An advanced peer-to-peer networking (APPN) directory search filter configuration list is used. Only the text description (TEXT) and default action (DFTACN) parameters can be changed using this command.

**Note:** To change an entry in an APPN directory configuration list, use the Change Configuration List Entry (CHGCFGLE) command.

### \*APPNLCL

Advance peer-to-peer networking (APPN) local location list. Up to 476 APPN local location entries are allowed in the configuration list.

### \*APPNRMT

APPN remote location list. Up to 1898 APPN remote location entries are allowed in the configuration list.

### \*APPNSSN

An APPN session end point filter configuration list is used.

### \*ASYNCADR

An asynchronous network address list is created. Up to 294 Asynchronous network address entries are allowed in the configuration list.

#### **\*ASYNCLOC**

An asynchronous remote location list is created. Up to 32000 Asynchronous remote location entries are allowed in the configuration list.

#### **\*RTLPASTR**

Retail pass-through list. Up to 450 Retail pass-through entries are allowed in the configuration list.

#### **\*SNAPASTHR**

An SNA pass-through list. Up to 254 SNA pass-through entries are allowed in the configuration list. Only the text description for an SNA configuration list can be specified using this command.

**Note:** To add an entry to an SNA configuration list, use the Add Configuration List Entry (ADD CFGLE) command.

To add a device name and description to an existing entry, use the Change Configuration List Entry (CHG CFGLE) command.

Top

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## **Configuration list (CFGL)**

Specifies the name of the configuration list. This value is required and valid only when the configuration list is an asynchronous network address list (\*ASYNCADR is specified for the **Configuration list type (TYPE)** parameter). The list types have system-supplied names: QAPPNLCL, QAPPNRMT, QASYNCADR, QASYNCLOC, QRTLPASTR, and QSNAPASTHR.

Top

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## **Default filter action (DFTFTRACN)**

Specifies the default filter action for APPN requests being handled by the local system. This filter action applies to all directory search requests and session endpoint requests that are not specifically listed in the configuration list.

**Note:** This parameter is valid only if TYPE(\*APPNDIR) or TYPE(\*APPNSSN) is specified.

#### **\*REJECT**

The request is rejected.

#### **\*ACCEPT**

The request is accepted.

Top

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## **APPN remote CFGL filter (APPNRMTFTR)**

Specifies whether APPN remote configuration list entries should be used when filtering session endpoint requests.

**Note:** This parameter is valid only if TYPE(\*APPNSSN) is specified.

#### **\*ACCEPT**

Session endpoint requests for entries specified in the APPN remote configuration list are accepted.

**\*NONE**

Session endpoint requests will not be filtered using the entries specified in the APPN remote configuration list.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*BLANK**

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## APPN local location entry (APPNLCLE)

Specifies the APPN local location entry. This value is required if \*APPNLCL is specified for the **Configuration list type** prompt (TYPE parameter).

You can enter multiple values for this parameter.

**\*PROMPT**

The special value of \*PROMPT allows you to add, remove, and change entries using a full screen entry panel.

A maximum of 50 entries can be specified directly for this parameter. An entry consists of a value from each of the following elements.

*local-location-name*

Specify the location name residing on the local system. This name is used by APPN to determine if the request coming in is for this system or another system in the network. The local location name must be unique and cannot already exist as a remote location name used by configuration list QAPPNRMT, or be specified on another system as a local location in the same APPN network.

*entry-description*

Specify a short description of 20 characters or less for each local entry.

Top

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## APPN remote location entry (APPNRMTE)

Specifies the APPN remote location entry. This value is required if \*APPNRMT is specified for the **Configuration list type** prompt (TYPE parameter).

You can enter multiple values for this parameter.

**\*PROMPT**

The special value of \*PROMPT allows you to add, remove, and change entries using a full screen entry panel.

A maximum of 50 entries can be specified directly for this parameter. An entry consists of a value from each of the following elements.

***remote-location-name***

Specify the full name of a remote location or a generic name ending with an asterisk (\*). The generic location name is used to allow one directory entry to be defined for all locations, on a single control point, whose name matches the characters preceding the asterisk. You can also specify \*ANY so the system will accept all requests sent through it. Generic entries are only allowed from network nodes.

***remote-network-identifier***

Specify the network identifier of the network in which the remote location resides. The default of \*NETATR uses the LCLNETID value from the system network attributes.

***local-location-name***

Specify the location name residing on the local system. This name is used by APPN to match a local/remote location pair entry. The default of \*NETATR uses the LCLLOCNAME value from the system network attributes.

***control-point-name***

Specify the control point providing network functions for the remote location. By using this control point name (directory entry for the remote location), the network is searched more efficiently to find the location. This field is required if the remote location name is generic. The default is \*NONE.

***control-point-network-identifier***

Specify the network identifier of the network in which the control point resides. The default of \*NETATR uses the LCLNETID value from the system network attributes.

***location-password***

Specify the password that is used when establishing sessions on the local location/remote location name pair. This value must contain an even number of hexadecimal characters. The default is \*NONE.

***secure-location***

Specifies how security information is handled for program start requests received from remote systems. The value is sent to the remote system when sessions are established. It is used in determining how allocate or evoke requests should be built. The value only applies to conversations started with the SECURITY(SAME) level of security.

**\*NO** The remote system is not a secure location. Security validation done by the remote system is not accepted. SECURITY(SAME) conversations are treated as SECURITY(NONE). No security information will be sent with allocate or evoke requests.

**\*YES** The remote system is a secure location and the local system will accept security validation done by remote systems. For SECURITY(SAME) conversations, the local system allows the remote system to verify user passwords. On the remote system, user IDs are retrieved from the operating system. The user IDs are then sent with an already verified indicator in the allocate or evoke requests.

**\*VFYENCPWD**

The remote system is not a secure location. For SECURITY(SAME) conversations, the remote system is not allowed to send the already verified indicator. On the remote system, user IDs and passwords are retrieved from the operating system. Passwords are then encrypted and sent with the user IDs in the allocate or evoke requests, to be verified by the local system. This value should only be used if the remote system is using i5/OS V3R2M0 or later. If the remote system does not support password protection then session establishment will not be allowed. For remote systems that support password protection, but do not support verification of encrypted passwords (VFYENCPWD), conversations will be treated as SECURITY(NONE).

### *number-of-conversations*

Specify the number of conversations for a single session connection. The default number of conversations is 10. The default value must be used if single session is \*NO. The valid range for the number of conversations is 1 through 512.

### *locally-controlled-session*

Specify YES or NO to indicate whether a locally controlled session is allowed for this local location/remote location name pair. The default is \*NO.

### *pre-established-session*

Specify YES or NO to indicate whether the session is automatically bound when a connection is made between the local and remote location. The default is \*NO.

### *entry-description*

Specify a short description for each remote entry. The default is \*BLANK.

**Note:** The combination of remote location name, network identifier, and local location name must be unique. Also, the remote location name can not already exist as a local location in configuration list QAPPNLCL, or as the current value for LCLLOCNAME or LCLCPNAME network attribute.

Top

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## **Async network address entry (ASYNCADRE)**

Specifies the asynchronous network address entry. This value is required if \*ASYNCADR is specified for the **Configuration list type** prompt (TYPE parameter).

You can enter multiple values for this parameter.

### **\*PROMPT**

The special value of \*PROMPT allows you to add, remove, and change entries using a full screen entry panel.

A maximum of 50 entries can be specified directly for this parameter. An entry consists of a value from each of the following elements.

### *network-address*

Specify the X.25 network address. This value must contain only digits 0-9.

### *dial-retry*

Specify the number of times that dialing will be tried again when errors occur while dialing, before attempting to dial the next number on the list. The valid range of dial retries is 1-255.

### *entry-description*

Specify a short description for each network address entry.

Top

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## **Async remote location entry (ASYNCCLOCE)**

Specifies the asynchronous remote location entry. This value is required if \*ASYNCCLOC is specified for the **Configuration list type** prompt (TYPE parameter).

You can enter multiple values for this parameter.

### **\*PROMPT**

The special value of \*PROMPT allows you to add, remove, and change entries using a full screen entry panel.



A maximum of 50 entries can be specified directly for this parameter. An entry consists of a value from each of the following elements.

***remote-location-name***

Specify the name that, when combined with the remote location identifier, determines whether to accept an incoming call. It is the same as the name used in the remote system as it's local name. This value must be unique.

***remote-location-identifier***

Specify an identifier that, when combined with the remote location name, determines if an incoming call will be accepted. This identifier must be the same as the remote system has for its local identifier.

***entry-description***

Specify a short description for each remote location entry. The default is \*BLANK.

Top

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## **Retail pass-through entry (RTLPASTHRE)**

Specifies the retail pass-through entry. This value is required if \*RTLPASTHR is specified for the **Configuration list type** prompt (TYPE parameter).

You can enter multiple values for this parameter.

**\*PROMPT**

The special value of \*PROMPT allows you to add, remove, and change entries using a full screen entry panel.

A maximum of 50 entries can be specified directly for this parameter. An entry consists of a value from each of the following elements.

***retail-device-name***

Specify the name of the retail device that communicates with the host. This value must be unique.

***SNUF-device-name***

Specify the name of the SNUF device through which the retail device communicates with the host. This value must be unique.

***Default-host-program-name***

Specify the name of the program to be started on the host if the program name is not present in the SNA command (INIT-SELF) that requests a session to be started.

***entry-description***

Specify a short description for each retail pass-through entry. The default is \*BLANK.

Top

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## **Authority (AUT)**

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can

change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**  
The user cannot access the object.

**\*LIBCRTAUT**  
The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCFGL TYPE(*APPNLCL)
```

This command brings up a full-screen entry display that allows the user to add new entries to configuration list QAPPNLCL.

Top

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## Error messages

### \*ESCAPE Messages

- CPF2182**  
Not authorized to library &1.
- CPF260D**  
Configuration list &1 already exists.
- CPF260E**  
Configuration list &1 not created.
- CPF261C**  
Index for configuration list &1 not changed.
- CPF261D**  
Index for configuration list &1 not changed.
- CPF261F**  
Configuration list &1 has been deleted.

**CPF2625**

Not able to allocate object &1.

**CPF2634**

Not authorized to object &1.

**CPF9838**

User profile storage limit exceeded.

[Top](#)



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## Create Keystore File (CRTCKMKSF)

Where allowed to run: All environments (\*ALL)  
Threadsafe: Yes

Parameters  
Examples  
Error messages

The Create Keystore File (CRTCKMKSF) command creates a database file for storing cryptographic key values for use with the cryptographic services set of APIs, CL commands, and GUI interface.

For more information on keystore, refer to the Cryptographic Services Keystore article in the Cryptographic Services section of the APIs topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

### Restrictions:

- You must have execute (\*EXECUTE) and add (\*ADD) authorities to the library where the keystore file is created.

Top

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## Parameters

Keyword	Description	Choices	Notes
KEYSTORE	Keystore file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Keystore file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
MSTKEY	Master key	1-8	Required, Positional 2
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional

Top

---

## Keystore file (KEYSTORE)

Specifies the name and library for the keystore file.

This is a required parameter.

### Qualifier 1: Keystore file

*name* Specify the name for the keystore file that will be created.

### Qualifier 2: Library

#### \*CURLIB

The current library for the job is where the file will be created. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the file will be created.

Top

---

## Master key (MSTKEY)

Specifies the master key under which the key values will be encrypted.

This is a required parameter.

**1-8** There are eight master keys that can be used for encrypting keystore keys.

Top

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## Authority (AUT)

Specifies the authority you give to users who do not have specific private or group authority to the keystore file.

### \*LIBCRTAUT

The public authority for the keystore file is taken from the CRTAUT value for the target library when the file is created.

### \*CHANGE

The user has read, add, update, and delete authority for the keystore file and can read the object description.

\*ALL The user can perform all authorized operations on the keystore file.

\*USE The user can read the object description and contents, but cannot change the keystore file.

### \*EXCLUDE

The user cannot access the keystore file in any way.

*name* The keystore file is secured by the specified authorization list, and its public authority is set to \*AUTL.

Top

---

## Text 'description' (TEXT)

Specifies a brief description of the keystore file.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in single quotation marks.

Top

---

## Examples

```
CRTCKMKSF KEystore(MYLIB/MYKEYS) MSTKEY(5) AUT(*EXCLUDE)
          TEXT('My keys are stored here.')
```

This command creates a database file named MYKEYS in library MYLIB for storing cryptographic services keys. The key values will be stored in the file encrypted under Master Key 5. Users must be specifically authorized to use this file.

Top

---

## Error messages

### \*ESCAPE Messages

#### **CPF3CF2**

Error(s) occurred during running of &1 API.

#### **CPF9872**

Program or service program &1 in library &2 ended. Reason code &3.

#### **CPF9D94**

A pending value exists for a master key.

#### **CPF9D9D**

Error occurred while setting attributes on key store file.

#### **CPF9DA0**

Error opening key store file.

#### **CPF9DB3**

Qualified keystore file name is not valid.

#### **CPF9DB5**

Key store file not created.

#### **CPF9DB7**

Error occurred writing to the key store file.

Top





# Create C Locale Description (CRTCLD)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create C/400\* Locale Description (CRTCLD) command creates a locale description object (\*CLD) using the source information provided on the SRCFILE and SRCMBR parameters. The locale description source file must exist.

To change an existing locale, use the Retrieve C Locale Description (RTVCLDSRC) command.

## Error messages for CRTCLD

### \*ESCAPE Messages

#### PSE1707

The listing option on the CRTCLD command failed.

#### PSE1708

Member &3 is not found in the specified file and library.

#### PSE1709

File &1 is not found in library &2.

#### PSE1739

The necessary storage could not be allocated.

#### PSE1749

Compilation failed. Locale object &1 is not created.

Top

## Parameters

Keyword	Description	Choices	Notes
CLD	Locale name	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Locale name	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
SRCFILE	Source file	<i>Qualified object name</i>	Optional, Positional 2
	Qualifier 1: Source file	<i>Name, QCLDSRC</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
SRCMBR	Source member	<i>Name, *CLD</i>	Optional, Positional 3
TEXT	Text description	<i>Character value, *SRCMBRTXT, *BLANK</i>	Optional, Positional 4
OPTION	Source listing option	<i>*NOSOURCE, *SOURCE, *NOSRC, *SRC</i>	Optional, Positional 5
LISTING	Error listing level	<i>*NOSECLVL, *SECLVL</i>	Optional, Positional 6
PRTFILE	Print file	<i>Qualified object name</i>	Optional, Positional 7
	Qualifier 1: Print file	<i>Name, QSYSPRT</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	

Keyword	Description	Choices	Notes
REPLACE	Replace	<u>*YES</u> , *NO	Optional, Positional 8
AUT	Authority	Name, *LIBCRTAUT, *ALL, *CHANGE, *USE, *EXCLUDE	Optional, Positional 9
TGTRLS	Target Release	<u>*CURRENT</u> , *PRV, V3R0M5, V3R1M0, V3R6M0	Optional, Positional 10

Top

---

## Locale name (CLD)

Specifies the name and the library of the new C/400 locale description.

### *locale-name*

Enter a name for the C/400 locale description.

The possible library values are:

### \*CURLIB

The current library is used to store the locale when CRTCLD is processed. If you have not specified a current library, QGPL is used.

### *library-name*

Enter the name of the library where the C/400 locale description is to be created. The library must already exist.

Top

---

## Source file (SRCFILE)

Specifies the source physical file name and library of the C/400 locale description source. Both the source physical file and the library must exist.

### QCLDSRC

The default name for the source physical file containing the C/400 locale description source to be processed.

### *source-file-name*

Enter the name of the file containing the C/400 locale description source.

The possible library values are:

\*LIBL The library list is searched to find the library containing the source file when CRTCLD is processed.

### \*CURLIB

The current library is searched for the source file when CRTCLD is processed. If you have not indicated a specific library as your current library, QGPL is used.

### *library-name*

Enter the name of the library containing the C/400 locale description source file.

Top

---

## Source member (SRCMBR)

Specifies the member containing the C/400 locale description source. The member is in the file and library specified on the SRCFILE parameter. This member must exist.

**\*CLD** The locale name identified by the CLD parameter is also the name of the member.

*source-file-member-name*

Enter the name of the file member that contains the locale description source to be processed.

Top

---

## Text description (TEXT)

Enter text that describes the C/400 locale description.

**\*SRCMBRTXT**

The text description associated with the locale description source is used.

**\*BLANK**

No text appears.

*'description'*

Enter descriptive text no longer than 50 characters, and enclose it in single quotation marks. The quotation marks are not part of the 50 character string.

Top

---

## Source listing option (OPTION)

Specifies the options you want to use when you process the C/400 locale description source.

**\*NOSOURCE or \*NOSRC**

Does not create a source listing.

**\*SOURCE or \*SRC**

Creates a source listing.

Top

---

## Error listing level (LISTING)

Specifies the level of detail of error messages to include in the created source listing.

**\*NOSECLVL**

Only the first-level error message text is included in the created source listing.

**\*SECLVL**

Both levels of message text are included in the created source listing. The second level text describes the cause of the error, the possible steps to take to recover, and a technical description of the processing steps taken because of the error.

Top

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## Print file (PRTFILE)

Specifies the name and library of the printer file that will be used to print the source listing.

## QSYSPRT

The listing is directed to the default printer file QSYSPRT.

### *print-file-name*

Enter the name of the printer file where you want to direct your source listing. It must be defined to have a minimum record length of 132 characters.

The possible library values are:

**\*LIBL** The system searches the library list for the printer file.

### **\*CURLIB**

The current library is searched for the printer file. If you have not indicated a specific library as your current library, QGPL is used.

### *library-name*

Enter the name of the library where the printer file will be found.

Top

---

## **Replace (REPLACE)**

Specifies whether the existing version of the locale description object is to be replaced by the current version.

**YES** The existing locale description is replaced with the new version. The old version is moved to the library, QRPLOBJ, and renamed based on the system date and time. The text description of the replaced locale description is changed to the name of the original locale description. The old locale description is deleted at the next IPL if you do not explicitly delete it.

**\*NO** The existing locale description is not replaced. If a locale description with the same name exists in the specified library, a message is displayed and the locale description is not created.

Top

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## **Authority (AUT)**

Specifies the object authority you are granting the users who do not have specific authority to the object, who are not on the authorization list, or whose group has no specific authority to the object.

### **\*LIBCRTAUT**

The public authority for the object will be taken from the CRTAUT keyword of the target library (the library that will contain the created object). This value will be determined when the object is created. If the CRTAUT value for the library changes after the object is created, the new value will NOT affect any existing objects.

### **\*CHANGE**

Provides all data authority and the authority to perform all operations on the object except those limited to the owner or controlled by object authority and object management authority. You can change the object and perform basic functions on it.

**\*USE** Provides object operational authority and read authority; authority for basic operations on the object such as running a program or reading a file. You are prevented from changing the object.

**\*ALL** Authority for all operations on the object except those limited to the owner or controlled by authorization list management authority. You can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object, but you cannot transfer its ownership.

### **\*EXCLUDE**

You are prevented from accessing the object.

Top

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## **Target Release (TGTRLS)**

Specifies the release of the operating system on which you intend to use the object being created.

**Note:** This parameter has no function in the CRTCLD command but is included for consistency with other CL commands for creating objects. A \*CLD object created with any of the allowed TGTRLS values can be restored and used with the previous version of the operating system.

### **\*CURRENT**

The object is to be used on the release of the operating system currently running on your system. For example, if V3R6M0 is running on the system, \*CURRENT means you intend to use the object on a system with V3R6M0 installed. You can also use the object on a system with any later release of the operating system installed.

**\*PRV** The object is to be used on the previous release of the operating system. For example, if V3R6M0 is running on your system, \*PRV means you intend to use the object on a system with V2R3M0 installed. You can also use the object on a system with any later release of the operating system installed.

### *release-level*

Specify the release in the format VxRxMx, where Vx is the version, Rx is the release, and Mx is the modification level.

The object can be used on a system with the specified release or any later release of the operating system installed.

Valid values depend on the current version, release, and modification level, and these change with each new release. Press the F4 (Prompt) key from the TGTRLS parameter to see the list of valid values for this release.

Top

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## **Examples**

None

Top

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## **Error messages**

### **\*ESCAPE Messages**

#### **PSE1707**

The listing option on the CRTCLD command failed.

#### **PSE1708**

Member &3 is not found in the specified file and library.

#### **PSE1709**

File &1 is not found in library &2.

#### **PSE1739**

The necessary storage could not be allocated.

**PSE1749**

Compilation failed. Locale object &1 is not created.

[Top](#)

## Create CL Module (CRTCLMOD)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Control Language Module (CRTCLMOD) command creates a control language (CL) module from the specified CL source member.

Top

### Parameters

Keyword	Description	Choices	Notes
MODULE	Module	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Module	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
SRCFILE	Source file	<i>Qualified object name</i>	Optional, Positional 2
	Qualifier 1: Source file	<i>Name, <u>QCLSRC</u></i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
SRCMBR	Source member	<i>Name, <u>MODULE</u></i>	Optional, Positional 3
TEXT	Text 'description'	<i>Character value, *SRCMBRTXT, *BLANK</i>	Optional
OUTPUT	Output	<i>*PRINT, *NONE</i>	Optional, Positional 4
OPTION	Source listing options	Values (up to 4 repetitions): *XREF, *NOXREF, *GEN, *NOGEN, *SECLVL, *NOSECLVL, *EVENTF, *NOEVENTF	Optional, Positional 5
LOG	Log commands	<i>*JOB, *YES, *NO</i>	Optional
REPLACE	Replace module object	<i>*YES, *NO</i>	Optional
TGTRLS	Target release	<i>Simple name, *CURRENT, *PRV</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional
SRTSEQ	Sort sequence	Single values: *HEX, *JOB, *JOBRUN, *LANGIDUNQ, *LANGIDSHR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Sort sequence	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
LANGID	Language ID	<i>Character value, *JOBRUN, *JOB</i>	Optional
OPTIMIZE	Optimization	<i>*NONE, *BASIC, *FULL, 10, 20, 30, 40</i>	Optional
DBGVIEW	Debugging view	<i>*STMT, *SOURCE, *LIST, *ALL, *NONE</i>	Optional
ENBPFCOL	Enable performance collection	<i>*PEP, *FULL, *NONE</i>	Optional
INCFILE	INCLUDE file	Single values: *SRCFILE Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: INCLUDE file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	

Top

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## Module (MODULE)

Specifies the module object to be created.

This is a required parameter.

### Qualifier 1: Module

*name* Specify the name of the module to be created.

### Qualifier 2: Library

#### \*CURLIB

The module is stored in the current library for the job. If no current library entry exists in the library list, QGPL is used.

*name* Specify the library where the module is to be stored.

Top

---

## Source file (SRCFILE)

Specifies the source file that contains the CL source member to be compiled.

### Qualifier 1: Source file

#### QCLSRC

The source file named QCLSRC, that contains the CL source member to be compiled, is used.

*name* Specify the name of the source file that contains the CL source member to be compiled. The source file can be a database file, a device file, or an inline data file.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is used to locate the source file. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library to be searched.

Top

---

## Source member (SRCMBR)

Specifies the name of the member of the source file that contains the CL source member to be compiled.

#### \*MODULE

The CL source member to be compiled is in the member of the source file that has the same name as that specified for the MODULE parameter for the compiled module.

*name* Specify the name of the member that contains the CL source, if the member name is not the same as the name of the module to be created.

Top



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## Text 'description' (TEXT)

Specifies text that briefly describes the compiled CL module.

### \*SRCMBRTXT

The text is taken from the source file member used to create the CL module. If the source file is an inline data file or a device file, the text is blank.

### \*BLANK

Text is not specified.

### 'description'

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Output (OUTPUT)

Specifies whether or not a compiler listing is produced.

### \*PRINT

The compiler listing is produced. The information contained in the listing is dependent on the values specified for the **Source listing options (OPTION)** parameter.

### \*NONE

The compiler listing is not produced. When a listing is not required, this option should be used because compile-time performance may be better.

Top

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## Source listing options (OPTION)

Specifies the types of output lists created when this command is processed and whether a program is created. A maximum of four of the following values can be specified in any order on this parameter. If neither or both of the values in each group are specified, the underlined value is used.

**Note:** The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the Change Command Default (CHGCMDDFT) command.

### Module Creation Option

\*GEN All phases of the compilation process are carried out.

### \*NOGEN

Compilations stops after syntax checking. No module is created.

### Cross-Reference Option

### \*NOXREF

No cross-reference list of references to variable and data items in the source is created.

\*XREF A cross-reference listing of the source program is produced. OUTPUT(\*PRINT) must be specified.

### Second-Level Message Text Option

### \*NOSECLVL

No second level message text is printed.

### \*SECLVL

Second-level message text is printed. OUTPUT(\*PRINT) must be specified.

## Event File Creation Option

### \*NOEVENTF

The compiler will not produce an event file for use by the CoOperative Development Environment for i5/OS (CODE for i5/OS) product.

### \*EVENTF

The compiler produces an event file for use by the CODE for i5/OS product. The event file will be created as a member in the file EVFEVENT in your source library. The CODE for i5/OS product uses this file to offer error feedback integrated with the CODE for i5/OS editor. This option is normally specified by the CODE for i5/OS product on your behalf.

Top

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## Log commands (LOG)

Specifies the logging options for a created CL module.

\*JOB Logging of commands in a running CL module depends on the status of the job's logging flag (see the LOGCLPGM parameter of the Change Job (CHGJOB) command). To list the logged commands, the logging level of the jobs must be 3 or 4.

A \*YES or \*NO value takes precedence over any value specified in the CHGJOB command.

\*YES The commands are logged in all cases.

\*NO The commands are not logged.

Top

---

## Replace module object (REPLACE)

Specifies whether an existing module is replaced if a module with the same name already exists in the specified library.

\*YES The existing module is replaced by moving it to the QRPLOBJ library.

### Notes:

1. If a running CL module is recompiled with \*YES specified for the REPLACE parameter, message queue errors may occur in the running CL module.
2. Specifying \*YES for this parameter causes the value on the AUT parameter to be ignored. The existing module is used as the source of authority. To change the authority for the module, you can use the Grant Object Authority (GRTOBJAUT) or Revoke Object Authority (RVKOBJAUT) commands.

\*NO The existing module is not replaced. When a module with the same name exists in the specified library, a message is displayed and compilation stops.

Top

---

## Target release (TGTRLS)

Specifies the release of the operating system on which you intend to use the object being created.

When specifying the **target-release** value, the format VxRxMx is used to specify the release, where Vx is the version, Rx is the release, and Mx is the modification level. For example, V5R3M0 is version 5, release 3, modification 0.

Valid values depend on the current version, release, and modification level of the operating system, and they change with each new release. You can press F4 while prompting this command parameter to see a list of valid target release values.

**\*CURRENT**

The object is to be used on the release of the operating system currently running on your system. The object can also be used on a system with any subsequent release of the operating system installed.

**\*PRV** The object is to be used on the previous release with modification level 0 of the operating system. The object can also be used on a system with any subsequent release of the operating system installed.

*character-value*

Specify the release in the format VxRxMx. The object can be used on a system with the specified release or with any subsequent release of the operating system installed.

Top

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## Authority (AUT)

Specifies the authority you are granting to the users who do not have specific authority for the object, who are not on the authorization list, and whose user group has no specific authority for the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

**Note:** This parameter is ignored when REPLACE(\*YES) is specified.

Top

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## Sort sequence (SRTSEQ)

Specifies the sort sequence table to be used for string comparisons for this CL module. The sort sequence value is used with the language identifier and the coded character set identifier of the job to determine the sort sequence table to use.

### Single values

**\*HEX** A sort sequence table is not used. The hexadecimal values of the characters are used to determine the sort sequence.

**\*JOB** The sort sequence used is the SRTSEQ associated with the job when the CL module is created.

### \*JOBRUN

The sort sequence used is the SRTSEQ associated with the job when the CL module is run.

### \*LANGIDUNQ

The sort sequence table uses a unique weight for each character, and is the unique-weight sort table for the language specified for the LANGID parameter.

### \*LANGIDSHR

The sort sequence table uses the same weight for multiple characters, and is the shared-weight sort sequence table associated with the language specified for the LANGID parameter.

### Qualifier 1: Sort sequence

*name* Specify the name of the sort sequence table to be used with this CL module.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

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## Language ID (LANGID)

Specifies the language identifier to be used when SRTSEQ(\*LANGIDUNQ) or SRTSEQ(\*LANGIDSHR) is specified.

### \*JOBRUN

The language ID used is the LANGID associated with the job when the CL module is run.

**\*JOB** The language ID used is the LANGID associated with the job when the CL module is created.

### *language-ID*

Specify the language identifier to be used by the job.

Top

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## Optimization (OPTIMIZE)

Specifies the optimization level of the generated program code. ILE CL can not be optimized. For compatibility, values other than \*NONE are accepted, but no optimization will be performed. ILE CL modules and programs should not be used with system functions that require an optimization level higher than \*NONE.

#### **\*NONE**

The generated code is not optimized. This value is the fastest level of optimization in terms of translation time. This level allows variables to be displayed and modified while debugging.

#### **\*BASIC**

No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**\*FULL** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**10** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**20** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**30** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

**40** No optimization is performed. CPD0861 will be displayed in the compiled listing and sent to the job log.

Top

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## **Debugging view (DBGVIEW)**

Specifies which level of debugging is available for the compiled module, and which source views are available for source-level debugging.

#### **\*STMT**

The compiled module can be debugged using module statement numbers and symbolic identifiers.

#### **\*NONE**

None of the debug options for debugging the compiled module are available.

**\*ALL** All of the debug options for debugging the compiled module can be used. The source and debug listing views are generated.

#### **\*SOURCE**

The source view for debugging the compiled module is generated.

**\*LIST** The listing view for debugging the compiled module is generated.

Top

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## **Enable performance collection (ENBPFCOL)**

This parameter is obsolete.

Top

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## **INCLUDE file (INCFILE)**

Specifies the source file that contains members to be included in the program using Include CL Source (INCLUDE) commands.

### **Single Values**

### **\*SRCFILE**

The source file specified for the **Source file (SRCFILE)** parameter contains the source file members specified on any CL INCLUDE commands.

#### **Qualifier 1: INCLUDE file**

*name* Specify the name of the source file that contains the source file member specified on any CL INCLUDE commands.

The record length of the source file you specify here must be greater than or equal to the record length of the source file specified for the SRCFILE parameter.

#### **Qualifier 2: Library**

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the thread is used to locate the source file. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library to be searched.

Top

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## **Examples**

### **Example 1: Creating a CL Module**

```
CRTCLMOD PAYROLL TEXT('Payroll Program')
```

This command calls the ILE CL compiler to create a module (\*MODULE) named PAYROLL. The CL program or ILE CL procedure source is in the default source file QCLSRC in the member PAYROLL. A compiler listing is created.

Top

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## **Error messages**

### **\*ESCAPE Messages**

#### **CPF0C33**

Target release &1 not valid.

#### **CPF0C35**

Target release &1 is not a supported release.

#### **CPF0807**

File containing compiler printout not opened.

#### **CPF0808**

Error in compiler-created code.

#### **CPF0814**

Licensed Program 5761-SS1 Option 9 not installed.

#### **CPF0815**

CL program &1 in &2 cannot be created for previous release.

#### **CPF0821**

Module &1 not created.

**CPF0849**

Space addressing violation.

**CPF3202**

File &1 in library &2 in use.

**CPF3203**

Cannot allocate object for file &1 in &2.

**CPF3224**

Not authorized to perform operation on file &1.

[Top](#)





# Create CL Program (CRTCLPGM)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create CL Program (CRTCLPGM) command creates a Control Language (CL) program from the specified CL source program.

**Restrictions:** The amount of auxiliary storage occupied by a compiled program varies with the number of commands in the program, the kinds of functions performed by the commands (for example: display, create, add, and call), and the kinds of parameter values specified (variables versus constants). Some combinations of these factors can cause the system internal size limits for the program to be exceeded (an unlikely occurrence). When the limits are exceeded, the program must be rewritten, usually as multiple programs instead of one program.

Top

## Parameters

Keyword	Description	Choices	Notes
PGM	Program	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Program	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
SRCFILE	Source file	<i>Qualified object name</i>	Optional, Positional 2
	Qualifier 1: Source file	<i>Name, <u>QCLSRC</u></i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
SRCMBR	Source member	<i>Name, *PGM</i>	Optional, Positional 3
TEXT	Text 'description'	<i>Character value, *SRCMBRTXT, *BLANK</i>	Optional
OPTION	Source listing options	Values (up to 6 repetitions): *SOURCE, *NOSOURCE, *SRC, *NOSRC, *XREF, *NOXREF, *GEN, *NOGEN, *SECLVL, *NOSECLVL, *SRCDBG, *NOSRCDBG, *LSTDBG, *NOLSTDBG	Optional, Positional 4
GENOPT	Generation options	Values (up to 3 repetitions): *NOLIST, *LIST, *NOXREF, *XREF, *NOPATCH, *PATCH	Optional, Positional 5
USRPRF	User profile	<i>*USER, *OWNER</i>	Optional
LOG	Log commands	<i>*JOB, *YES, *NO</i>	Optional
ALWRTVSRC	Allow RTVCLSRC	<i>*YES, *NO</i>	Optional
REPLACE	Replace program	<i>*YES, *NO</i>	Optional
TGTRLS	Target release	<i>Simple name, *CURRENT, *PRV</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional
SRTSEQ	Sort sequence	Single values: *HEX, *JOB, *JOB RUN, *LANGIDUNQ, *LANGIDSHR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Sort sequence	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
LANGID	Language ID	<i>Character value, *JOB RUN, *JOB</i>	Optional

Keyword	Description	Choices	Notes
INCFILE	INCLUDE file	Single values: <b>*SRCFILE</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: INCLUDE file	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , <b>*CURLIB</b>	

Top

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## Program (PGM)

Specifies the program to be created.

This is a required parameter.

### Qualifier 1: Program

*name* Specify the name of the program to be created.

### Qualifier 2: Library

#### **\*CURLIB**

The program is stored in the current library for the job. If no current library entry exists in the library list, QGPL is used.

*name* Specify the library where the program is to be stored.

Top

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## Source file (SRCFILE)

Specifies the source file that contains the CL source member to be compiled.

### Qualifier 1: Source file

#### **QCLSRC**

The source file named QCLSRC, that contains the CL source member to be compiled, is used.

*name* Specify the name of the source file that contains the CL source member to be compiled. The source file can be a database file, a device file, or an inline data file.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is used to locate the source file. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library to be searched.

Top

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## Source member (SRCMBR)

Specifies the name of the source member (of the source file) that contains the CL source program to be compiled.

**\*PGM** The job name is the same as the program name specified for the **Program (PGM)** parameter.

*name* If the member name is not the same as the name of the program to be created, specify the name of the member that contains the CL source program.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*SRCMBRTXT

The text is taken from the source file member used to create the CL program.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Source listing options (OPTION)

Specifies the types of output listings created when this command is processed, and if a program is created when this command is processed. Multiple option values can be specified in any order on this parameter. If neither or both of the values in each group are specified, the underlined value will be used.

**Note:** The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the Change Command Default (CHGCMDDFT) command.

### Source Listing Option

#### \*SRC or \*SOURCE

The compiler creates a listing of the source input used to compile the program.

#### \*NOSRC or \*NOSOURCE

A complete compiler source listing is not created; only compiler errors are listed.

### Cross Reference Option

\*XREF The compiler creates a cross-reference listing of references to variables or labels in the source. If \*NOSOURCE is specified, \*NOXREF is always assumed.

#### \*NOXREF

No cross-reference listing of references to variables and data items in the source is created.

### Program Creation Option

\*GEN The compiler creates a program and places it in the appropriate library.

#### \*NOGEN

No program is created. The compiler is to syntax check the source and (if \*SOURCE or \*SRC option is specified) produce a source listing.

### Second-Level Message Text Option

#### \*NOSECLVL

No second-level message text will be printed.

#### \*SECLVL

Second-level text will be printed, along with first-level text, for compiler errors.

## Source-Level Debug Option

### \*NOSRCDBG

Source-level debug information is not generated. Source-level error information will not be generated unless \*LSTDBG is specified.

### \*SRCDBG

The compiler generates source-level error and debug information for use with CoOperative Development Environment/400 (CODE/400). Source-level or listing-level debugging information is also necessary if you want to use the source-level debug function of the system debugger (STRDBG OPMSRC(\*YES)) to debug OPM programs. An event file is created even if the compiler completes the process without error.

## Listing-Level Debug Option

### \*NOLSTDBG

A listing view or listing-level debugging information is not generated. Source-level error information will not be created unless \*SRCDBG is specified.

### \*LSTDBG

The compiler generates a listing view, source-level error information, and listing-level debugging information for use with CoOperative Development Environment/400 (CODE/400). Source-level or listing-level debugging information is also necessary if you want to use the source-level debug function of the system debugger (STRDBG OPMSRC(\*YES)) to debug OPM programs.

Top

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## Generation options (GENOPT)

Specifies the program generation options to be used. These values are ignored if OPTION(\*NOGEN) is specified. Multiple option values can be specified in any order on this parameter. If neither or both of the values in each group are specified, the underlined value will be used.

**Note:** The underlined values for this parameter are *similar* to, but not *actually* default values, and therefore, cannot be changed with the Change Command Default (CHGCMDDFT) command.

### IRP/MI Listing Option

#### \*NOLIST

No listing of the intermediate representation of the program (IRP) is created.

\*LIST A listing of the intermediate representation of the program (IRP), including the generated machine interface (MI) instructions, is created.

### IRP/MI Cross-Reference Option

#### \*NOXREF

No cross-reference listing of variable and data item references in the intermediate representation of the program is created.

\*XREF A cross-reference listing of variable and data item references in the intermediate representation of the program is created.

### Program Patch Area Option

#### \*NOPATCH

No space is to be reserved in the compiled program for a program patch area.

#### \*PATCH

Space is reserved in the compiled CL program for a program patch area.

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## User profile (USRPRF)

Specifies whether the authority checking done while this program is running should include only the user who is running the program (\*USER) or both the user who is running the program and the program owner (\*OWNER). The profiles of the program user or both the program user and the program owner are used to control which objects can be used by the program, including the authority the program has for each object. Only the program owner or a user with QSECOFR authority can change the user profile attribute.

**Note:** This parameter is ignored if REPLACE(\*YES) is specified.

### \*USER

The program runs under the user profile of the program's user.

### \*OWNER

The user profiles of both the program's owner and the program's user are used when the program is processed. The collective sets of object authority in both user profiles are used to find and access objects during program processing. Authority from the owning user profile's group profile is not included in the authority for the running program.

Top

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## Log commands (LOG)

Specifies the logging options for a created CL program. \*YES or \*NO specified here takes precedence over any value specified in the Change Job (CHGJOB) command.

\*JOB Logging of commands in a running CL program depends on the status of the job's logging flag (see the LOGCLPGM parameter of the Change Job (CHGJOB) command).

\*YES Commands are logged in all cases.

\*NO Commands are not logged.

Top

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## Allow RTVCLSRC (ALWRTVSRC)

Specifies whether source for the CL program is saved with the program. Source that is saved can be retrieved later by using the Retrieve CL Source (RTVCLSRC) command.

\*YES Source for the CL program is saved with the program.

\*NO Source for the CL program is not saved with the program.

Top

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## Replace program (REPLACE)

Specifies, if a program by the same name already exists in the specified library, whether the existing program is replaced.

### Notes:

1. If a running CL program is recompiled with \*YES specified for the REPLACE parameter, message queue errors may occur in the running CL program.

2. Specifying \*YES for this parameter will cause the values of the **User profile (USRPRF)** parameter and **Authority (AUT)** parameter to be ignored. The existing program is used as the source of authority, and the user profile attribute is copied from the existing program to the new program. Use the Change Program (CHGPGM) command to change the user profile and the Grant Object Authority (GRTOBJAUT) or Revoke Object Authority (RVKOBJAUT) commands to change the authority for the program.

**\*YES** Replace the existing program by moving it to the QRPLOBJ library.

**\*NO** Do not replace an existing program by the same name in the specified library.

Top

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## Target release (TGTRLS)

Specifies the release of the operating system on which you intend to use the object being created.

When specifying the **target-release** value, the format VxRxMx is used to specify the release, where Vx is the version, Rx is the release, and Mx is the modification level. For example, V5R3M0 is version 5, release 3, modification 0.

Valid values depend on the current version, release, and modification level of the operating system, and they change with each new release. You can press F4 while prompting this command parameter to see a list of valid target release values.

### \*CURRENT

The object is to be used on the release of the operating system currently running on your system. The object can also be used on a system with any subsequent release of the operating system installed.

**\*PRV** The object is to be used on the previous release with modification level 0 of the operating system. The object can also be used on a system with any subsequent release of the operating system installed.

### *character-value*

Specify the release in the format VxRxMx. The object can be used on a system with the specified release or with any subsequent release of the operating system installed.

Top

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## Authority (AUT)

Specifies the authority you are granting to the users who do not have specific authority for the object, who are not on the authorization list, and whose user group has no specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by

authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

**Note:** This parameter is ignored when REPLACE(\*YES) is specified.

Top

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## Sort sequence (SRTSEQ)

Specifies the sort sequence table to be used for string comparisons for this CL program. The sort sequence value is used with the language identifier and the coded character set identifier of the job to determine the sort sequence table to use.

### Single values

**\*HEX** A sort sequence table is not used. The hexadecimal values of the characters are used to determine the sort sequence.

**\*JOB** The sort sequence used is the SRTSEQ associated with the job when the CL program is created.

**\*JOBRUN**

The sort sequence used is the SRTSEQ associated with the job when the CL program is run.

**\*LANGIDUNQ**

The sort sequence table uses a unique weight for each character, and is the unique-weight sort table for the language specified for the LANGID parameter.

**\*LANGIDSHR**

The sort sequence table uses the same weight for multiple characters, and is the shared-weight sort sequence table associated with the language specified for the LANGID parameter.

### Qualifier 1: Sort sequence

**name** Specify the name of the sort sequence table to be used with this CL program.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

**name** Specify the name of the library to be searched.

Top

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## Language ID (LANGID)

Specifies the language identifier to be used when SRTSEQ(\*LANGIDUNQ) or SRTSEQ(\*LANGIDSHR) is specified.

### \*JOBRUN

The language ID used is the LANGID associated with the job when the CL program is run.

**\*JOB** The language ID used is the LANGID associated with the job when the CL program is created.

### *language-ID*

Specify the language identifier to be used by the job.

Top

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## INCLUDE file (INCFILE)

Specifies the source file that contains members to be included in the program using Include CL Source (INCLUDE) commands.

### Single Values

#### \*SRCFILE

The source file specified for the **Source file (SRCFILE)** parameter contains the source file members specified on any CL INCLUDE commands.

### Qualifier 1: INCLUDE file

*name* Specify the name of the source file that contains the source file member specified on any CL INCLUDE commands.

The record length of the source file you specify here must be greater than or equal to the record length of the source file specified for the SRCFILE parameter.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the thread is used to locate the source file. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library to be searched.

Top

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## Examples

### Example 1: Creating a Program to be Run by Any System User

```
CRTCLPGM PAYROLL TEXT('Payroll Program')
```

This command calls the CL compiler to create a program named PAYROLL. The CL program or ILE CL procedure source is in the default source file QCLSRC in the member PAYROLL. A compiler listing is created. The program is processed under the program user's user profile and can be run by any system user.

### Example 2: Creating a Program to be Run by an Authorized User



```
CRTCLPGM  PGM(PARTS)  SRCFILE(MYLIB/PARTDATA)  AUT(*EXCLUDE)
          TEXT('This program displays all parts data')
```

This command creates a CL program named PARTS and stores it in the current library. The source for the program is in the PARTS member of the source file PARTDATA in the library MYLIB. A compiler listing is created. This program can be processed under the profile of the user that is running the program, who could be the owner or another user to which the owner has granted specific authorization by name in the Grant Object Authority (GRTOBJAUT) command.

### Example 3: Creating a Program to be Run on a Previous Release System

```
CRTCLPGM  PGM(MYPPGM)  SRCFILE(MYLIB/MYDATA)  TGTRLS(*PRV)
```

This command creates a CL program that can be saved for a previous release system, restored on that system, and run on that system.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF0C33

Target release &1 not valid.

#### CPF0C35

Target release &1 is not a supported release.

#### CPF0801

Program &1 not created.

#### CPF0804

Built-in function operands not valid. Reason code &1.

#### CPF0807

File containing compiler printout not opened.

#### CPF0808

Error in compiler-created code.

#### CPF0814

Licensed Program 5761-SS1 Option 9 not installed.

#### CPF0815

CL program &1 in &2 cannot be created for previous release.

#### CPF0816

%SWITCH mask &1 not valid.

#### CPF0849

Space addressing violation.

#### CPF3202

File &1 in library &2 in use.

#### CPF3203

Cannot allocate object for file &1 in &2.

**CPF3224**

Not authorized to perform operation on file &1.

**EVF3140**

The program's debug information was not created.

[Top](#)

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## Create Class (CRTCLS)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Class command creates a class object and specifies the attributes to be contained in the class. The class defines the processing attributes for jobs that use the class. The class used by a job is specified in the subsystem description routing entry used to start the job. If a job consists of multiple routing steps, the class used by each subsequent routing step is specified in the routing entry used to start the routing step.

Top

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### Parameters

Keyword	Description	Choices	Notes
CLS	Class	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Class	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
RUNPTY	Run priority	1-99, <u>50</u>	Optional
TIMESLICE	Time slice	0-9999999, <u>2000</u>	Optional
PURGE	Eligible for purge	<i>*YES, *NO</i>	Optional
DFTWAIT	Default wait time	0-9999999, <u>30</u> , *NOMAX	Optional
CPUTIME	Maximum CPU time	1-9999999, *NOMAX	Optional
MAXTMPSTG	Maximum temporary storage	1-2147483647, *NOMAX	Optional
MAXTHD	Maximum threads	1-32767, *NOMAX	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

---

### Class (CLS)

Specifies the name and library used for the class name.

This is a required parameter.

#### Qualifier 1: Class

*name* Specify the name of the class.

#### Qualifier 2: Library

##### \*CURLIB

The class is created in the current library for the thread. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the class is created.

---

## Run priority (RUNPTY)

Specifies the run priority of jobs that use the class. Run priority is a value ranging from 1 (highest priority) through 99 (lowest priority) that represents the priority at which the job competes for the processing unit relative to other jobs that are active at the same time. For multi-threaded jobs, the run priority is also the highest run priority allowed for any thread within the job. Individual threads within the job may have a lower priority.

This value represents the relative, not absolute, importance of the job. For example, a job with a run priority of 25 is **not** twice as important as one with a run priority of 50.

**50** Jobs that use this class have a run priority of 50.

**1-99** Specify the run priority of jobs using this class.

Top

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## Time slice (TIMESLICE)

Specifies the maximum amount of processor time (in milliseconds) given to each thread in a job using this class before other threads in a job or other jobs are given the opportunity to run. The time slice establishes the amount of time needed by a thread in a job to accomplish a meaningful amount of processing. At the end of the time slice, the thread might be put in an inactive state so that other threads can become active in the storage pool.

**2000** A maximum run time of 2000 milliseconds is allocated to each thread each time it is allowed to process.

**0-9999999**

Specify the maximum amount of time (in milliseconds) that each thread in a job using this class can have to run when it is given processing time.

**Note:** Although you can specify a value of less than 8, the system takes a minimum of 8 milliseconds to run a process. If you display a job's run attributes, the time slice value is never less than 8.

Top

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## Eligible for purge (PURGE)

Specifies whether the job is eligible to be moved out of main storage and put into auxiliary storage at the end of a time slice or when there is a long wait (such as waiting for a work station user's response). The operating system no longer uses this parameter.

**\*YES** The job is eligible to be moved out of main storage and into auxiliary storage. However, a job with multiple threads is never purged from main storage.

**\*NO** The job is not eligible to be moved out of main storage and put into auxiliary storage. However, when main storage is needed, pages belonging to a thread in this job may be moved to auxiliary storage. Then, when a thread in this job runs again, its pages are returned to main storage as they are needed.

Top

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## Default wait time (DFTWAIT)

Specifies the default maximum time (in seconds) that a thread in the job waits for a system instruction, such as the LOCK machine interface (MI) instruction, to acquire a resource. This default wait time is used when a wait time is not otherwise specified for a given situation. Normally, this would be the amount of time the system user would be willing to wait for the system before the request is ended. If the wait time for any one instruction is exceeded, an error message can be displayed or it can be automatically handled by a Monitor Message (MONMSG) command.

**30** An instruction wait has a maximum of 30 seconds in which to complete.

**\*NOMAX**

There is no maximum wait time.

**0-9999999**

Specify the maximum time (in seconds) that the system waits for an instruction to acquire a resource.

Top

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## Maximum CPU time (CPUTIME)

Specifies the maximum processing unit time (in milliseconds) that the job can use. If the job consists of multiple routing steps, each routing step is allowed to use this amount of processing unit time. If the maximum time is exceeded, the job is ended.

**\*NOMAX**

There is no limit on the processing unit time used.

**1-9999999**

Specify the maximum amount of processing unit time (in milliseconds) that can be used.

Top

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## Maximum temporary storage (MAXTMPSTG)

Specifies the maximum amount of temporary (auxiliary) storage (in kilobytes) that the job can use. If the job consists of multiple routing steps, this is the maximum temporary storage that the routing step can use. This temporary storage is used for storage required by the program itself and by implicitly created internal system objects used to support the job. It does not include storage in the QTEMP library. If the maximum temporary storage is exceeded, the job is ended. This parameter does not apply to the use of permanent storage, which is controlled through the user profile.

**\*NOMAX**

The system maximum is used.

**1-2147483647**

Specify the maximum amount of temporary storage (in kilobytes) that can be used.

**Note:** Although the value is specified in kilobytes, the specified value is stored in the class rounded up to the nearest megabyte.

Top

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## Maximum threads (MAXTHD)

Specifies the maximum number of threads that a job using this class can run with at any time. If multiple threads are initiated simultaneously, this value may be exceeded. If this maximum value is exceeded, the excess threads will be allowed to run to their normal completion. Initiation of additional threads will be inhibited until the maximum number of threads in the job drops below this maximum value.

### \*NOMAX

There is no maximum number of threads.

### 1-32767

Specify the maximum number of threads for a job.

**Note:** Depending upon the resources used by the threads and the resources available on the system, the initiation of additional threads may be inhibited before this maximum value is reached.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *'description'*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The authority for the object is taken from the value specified for the **Create authority (CRTAUT)** parameter of the library in which the object is being created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCLS CLS(CLASS1) RUNPTY(60) TIMESLICE(900)
      TEXT('This class for all batch jobs from Dept 4836')
```

This command creates a class called CLASS1. The class is stored in the current library specified for the job. The user text 'This class for all batch jobs from Dept 4836' describes the class. The attributes of this class provide a run priority of 60 and a time slice of 900 milliseconds. If the job has not finished running at the end of a time slice, it is eligible to be moved out of main storage until it is allocated another time slice. The defaults for the other parameters are assumed.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF1027

No authority to library &1.

#### CPF1039

Class library &1 not found.

#### CPF1064

Class &1 exists in library &2.

#### CPF1067

Cannot allocate library &1.

#### CPF9802

Not authorized to object &2 in &3.

#### CPF9899

Error occurred during processing of command.

Top





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## Create Command (CRTCMD)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Command (CRTCMD) command creates a new user-defined command (that is, a command definition) that can use the same command processing support that is used by IBM-supplied commands. The command definition is an object that can be stored in the general purpose library (QGPL) or in a user library. To update an existing command (for example, change the name of one of its parameter keywords), the existing command must first be deleted by the Delete Command (DLTCMD) command and then created again by the Create Command (CRTCMD) command. However, some of the values can be changed by the Change Command (CHGCMD) command.

To create a command, a set of command definition statements are entered into a source file. The Create Command (CRTCMD) command is used to process the source file and create a command definition object. The following command definition statements are used as needed:

- Command statement (CMD): One CMD statement is needed for each command being defined.
- Parameter statement (PARM): One PARM statement is required for each command parameter in the command being defined. It defines the parameter to be passed to the command processing program (CPP).
- Element statement (ELEM): An ELEM statement further defines a parameter that is a list of values. One statement is required for each possible element of the list.
- Qualifier statement (QUAL): A QUAL statement is required to describe each part of a qualified name that can be accepted for a parameter (defined in a PARM statement) or for an element in a list of values (defined in an ELEM statement).
- Dependent statement (DEP): The DEP statement indicates which parameters are interdependent.
- Prompt control statement (PMTCTL): The PMTCTL statement describes the conditions used to select a parameter for prompting.

Descriptions of the command definition statements are in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Restriction:** The CRTCMD command can be used only to create the command definition of an actual CL command. That is, it cannot be used to create definitions of *statements*, such as the command definition statements themselves.

Top

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## Parameters

Keyword	Description	Choices	Notes
CMD	Command	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Command	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , * <b>CURLIB</b>	
PGM	Program to process command	Single values: *REXX Other values: <i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: Program to process command	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , * <b>LIBL</b> , * <b>CURLIB</b>	

Keyword	Description	Choices	Notes
SRCFILE	Source file	<i>Qualified object name</i>	Optional, Positional 3
	Qualifier 1: Source file	Name, <u>QCMSRC</u>	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
SRCMBR	Source member	Name, <u>*CMD</u>	Optional, Positional 4
REXSRCFILE	REXX source file	<i>Qualified object name</i>	Optional
	Qualifier 1: REXX source file	Name, <u>QREXSRC</u>	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
REXSRCMBR	REXX source member	Name, <u>*CMD</u>	Optional
REXCMDENV	REXX command environment	Single values: <u>*COMMAND</u> , *CPICOMM, *EXECSQL Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: REXX command environment	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
REXEXITPGM	REXX exit programs	Single values: <u>*NONE</u> Other values (up to 8 repetitions): <i>Element list</i>	Optional
	Element 1: Program	<i>Qualified object name</i>	
	Qualifier 1: Program	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
	Element 2: Exit code	2, 3, 4, 5, 7, 8, 9, 10	
THDSAFE	Threadsafe	*YES, <u>*NO</u> , *COND	Optional
MLTTHDACN	Multithreaded job action	<u>*SYSVAL</u> , *RUN, *MSG, *NORUN	Optional
TEXT	Text 'description'	<i>Character value</i> , <u>*SRCMBRTXT</u> , *CMDPMT, *BLANK	Optional
VLDCKR	Validity checking program	Single values: <u>*NONE</u> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Validity checking program	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
MODE	Mode in which valid	Single values: <u>*ALL</u> Other values (up to 3 repetitions): *PROD, *DEBUG, *SERVICE	Optional
ALLOW	Where allowed to run	Single values: <u>*ALL</u> Other values (up to 9 repetitions): *BATCH, *INTERACT, *BPGM, *IPGM, *BREXX, *IREXX, *EXEC, *BMOD, *IMOD	Optional
ALWLMTUSR	Allow limited users	<u>*NO</u> , *YES	Optional
MAXPOS	Maximum positional parameters	0-75, <u>*NOMAX</u>	Optional
PMTFILE	Message file for prompt text	Single values: <u>*NONE</u> Other values: <i>Element list</i>	Optional
	Element 1: Message file	<i>Qualified object name</i>	
	Qualifier 1: Message file	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
	Element 2: Message text	<u>*STATIC</u> , *DYNAMIC	
MSGF	Message file	<i>Qualified object name</i>	Optional
	Qualifier 1: Message file	Name, <u>QCPFMSG</u>	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
HLP SHELF	Help bookshelf	<i>Simple name</i> , <u>*NONE</u> , *LIST	Optional

Keyword	Description	Choices	Notes
HLPPNLGRP	Help panel group	Single values: <b>*NONE</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Help panel group	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , <b>*CURLIB</b>	
HLPID	Help identifier	<i>Character value</i> , <b>*CMD</b> , <b>*NONE</b>	Optional
HLPSCHIDX	Help search index	Single values: <b>*NONE</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Help search index	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , <b>*CURLIB</b>	
CURLIB	Current library	<i>Name</i> , <b>*NOCHG</b> , <b>*CRTDFT</b>	Optional
PRDLIB	Product library	<i>Name</i> , <b>*NOCHG</b> , <b>*NONE</b>	Optional
PMTOVRPGM	Prompt override program	Single values: <b>*NONE</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Prompt override program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , <b>*CURLIB</b>	
AUT	Authority	<i>Name</i> , <b>*LIBCRTAUT</b> , <b>*USE</b> , <b>*ALL</b> , <b>*CHANGE</b> , <b>*EXCLUDE</b>	Optional
REPLACE	Replace command	<b>*YES</b> , <b>*NO</b>	Optional
ENBGUI	Enable GUI	<b>*YES</b> , <b>*NO</b>	Optional

Top

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## Command (CMD)

Specifies the command to be created.

### Qualifier 1: Command

*name* Specify the name of the command to be created.

This is a required parameter.

### Qualifier 2: Library

#### **\*CURLIB**

The command is created in the current library for the job. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the command is to be located.

Top

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## Program to process command (PGM)

Specifies the name and library of the command processing program (CPP) used to process the command. The command processing program is not needed until command run time.

The parameters passed to the command processing program are the ones defined by the command definition statements in the source file specified in the **Source file (SRCFILE)** parameter.

This is a required parameter.

## Single values

### \*REXX

The CPP for this command is the REXX procedure identified on the **REXX source member (REXSRCMBR)** parameter.

### Qualifier 1: Program to process command

*name* Specify the name of the CPP that processes the command.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the job is used to locate the program. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the program is located.

Top

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## Source file (SRCFILE)

Specifies the source file that contains the command definition statements.

### Qualifier 1: Source file

#### QCMDSRC

The source file named QCMDSRC contains the command definition statements.

*name* Specify the name of the source file that contains the command definition statements for the command being created.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the job is used to locate the source file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library name for the source file that contains the command definition statements for the command being created.

Top

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## Source member (SRCMBR)

Specifies the source file member that contains the command definition statements used to create the command.

**\*CMD** When the file specified for the **Source file (SRCFILE)** parameter is a database file, the name of the source file member is the name specified for the **Command (CMD)** parameter of this command.

*name* Specify the name of the member in the source file specified for the SRCFILE parameter.

Top

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## REXX source file (REXSRCFILE)

Specifies the source file that contains the REXX command processing program (CPP).

### Qualifier 1: REXX source file

#### QREXSRC

The file named QREXSRC contains the REXX CPP source file member.

*name* Specify the name of the source file that contains the source member to use.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library is used to locate the source file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library used to locate the REXX source file.

Top

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## REXX source member (REXSRCMBR)

Specifies the source file member that contains the REXX procedure that is to function as the apparent command processing program (CPP).

\*CMD The default member name is the name specified for the **Command (CMD)** parameter of this command.

*name* Specify the name of the source file member that contains the REXX procedure that is to function as the apparent command processing program.

Top

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## REXX command environment (REXCMDENV)

Specifies the command environment that is active when the REXX command processing program (CPP) starts to run. If the system control language (CL) environment is not used, a program can be specified to process commands found in the REXX procedure. The REXX interpreter calls this program to process commands encountered in the procedure. This environment can be changed through the REXX ADDRESS instruction.

### Single values

#### \*COMMAND

The control language (CL) command environment is used.

#### \*CPICOMM

The Common Programming Interface (CPI) for Communications command environment is used. CPICOMM is the command environment used for CL commands that are embedded within a REXX procedure.

#### \*EXECSQL

The Structured Query Language (SQL) Command environment is used. EXECSQL is the command environment used for CL commands that are imbedded within a SQL procedure.

### Qualifier 1: REXX command environment

*name* Specify the name of the program to be called to process commands that are embedded in the REXX procedure.

#### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the program. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the program is located.

Top

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## REXX exit programs (REXEXITPGM)

Specifies the exit programs to be used when the REXX command processing program (CPP) is started. A maximum of eight program and exit code combinations can be specified.

### Single values

#### \*NONE

There are no exit programs for the REXX CPP.

### Element 1: Program

#### Qualifier 1: Program

*name* Specify the name of the exit program.

#### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library list is used to locate the program. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library to be searched.

### Element 2: Exit code

- 2 The associated program is called whenever an external function or subroutine has been called by the REXX program. The exit program is then responsible for locating and calling the requested routine.
- 3 The associated program is called whenever the interpreter is going to call a command. The exit program is responsible for locating and calling the command given the command string and the current environment name.
- 4 The associated program is called whenever a REXX instruction or function attempts an operation on the REXX external data queue.
- 5 The associated program is called when session input or output operations are attempted.

- 7 The associated program is called after running each clause of the REXX procedure to determine whether it should be halted.
- 8 The associated program is called after running each clause of the REXX program to check whether tracing should be turned on or off.
- 9 The associated program is called before interpretation of the first instruction of a REXX procedure (including REXX procedures called as external functions and subroutines).
- 10 The associated program is called after interpretation of the last instruction of a REXX procedure (including REXX procedures called as external functions and subroutines).

Top

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## Threadsafe (THDSAFE)

Specifies whether the command is threadsafe and can be used safely in a job that has multiple threads.

**\*NO** The command is not threadsafe and should not be used in a job that has multiple threads.

**\*YES** The command is threadsafe and can be used safely in a job that has multiple threads.

**\*COND**

The command is threadsafe under certain conditions. See the online help or other documentation for the command to determine the conditions under which the command is threadsafe.

Top

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## Multithreaded job action (MLTTHDACN)

Specify the multithreaded job action for this command. If you do not know the action to take in a multithreaded job, use the default value of \*SYSVAL.

**\*SYSVAL**

The multithreaded job action specified in the QMLTTHDACN system value is used.

**\*RUN** Run the command.

**\*MSG** Run the command and send a diagnostic message.

**\*NORUN**

Do not run the command.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*SRCMBRTXT**

The text is taken from the source file member used to create the CL command.

**\*CMDPMT**

The text description will be the same as the command title shown when the command is prompted.

**\*BLANK**

No text is specified.

*character-value*

Specify no more than 50 bytes of text, enclosed in apostrophes.

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## Validity checking program (VLDCKR)

Specifies the program that performs additional validity checking on the parameters in the command being created. The same parameters that are passed to the command processing program (CPP) are also passed to the validity checking program. The validity checker performs additional parameter checking beyond that specified by the command definition statements in the source file, and beyond normal control language syntax checking. More information on validity checking is in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

### Single values

#### \*NONE

There is no separate validity checking program for this command. All validity checking is done by the command analyzer and the command processing program. Whenever the command is processed or checked for validity, provided variables and expressions are not used.

### Qualifier 1: Validity checking program

*name* Specify the name and library of the validity checking program that checks the validity of the command.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the program. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the validity checking program is located.

---

## Mode in which valid (MODE)

Specifies the modes of operating environment to which the newly defined command applies.

### Single values

\*ALL The command is valid in all the types of modes: production, debug, and service.

### Other values (up to 3 repetitions)

#### \*PROD

The command is valid for production mode operations.

#### \*DEBUG

The command is valid for debug mode operations.

#### \*SERVICE

The command is valid for service mode operations.



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## Where allowed to run (ALLOW)

Specifies where the command can be processed.

### Single values

**\*ALL** The command can be processed in a batch input stream, in a CL program, in a REXX procedure, in a CL ILE module, or when processed interactively. It can also be passed to the system API programs QCMDEXC, QCAEXEC, and QCAPCMD for processing.

### Other values (up to 9 repetitions)

#### **\*BATCH**

The command can be processed in a batch input stream, external to a compiled CL program.

#### **\*INTERACT**

The command can be processed interactively, external to a compiled CL program.

#### **\*BPGM**

The command can be processed in a compiled CL program that is called from batch entry.

#### **\*IPGM**

The command can be processed in a compiled CL program that is called from interactive entry.

#### **\*BREXX**

The command can be used in a REXX procedure run in a batch job.

#### **\*IREXX**

The command can be used in a REXX procedure run in an interactive job.

#### **\*BMOD**

The command can be used in a batch CL ILE program only.

#### **\*IMOD**

The command can be used in a interactive CL ILE program only.

#### **\*EXEC**

The command can be used as a parameter on the CALL command and be passed as a character string to the system API programs QCMDEXC, QCAEXEC, and QCAPCMD for processing. If \*EXEC is specified, either \*BATCH or \*INTERACT must also be specified.

Top

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## Allow limited users (ALWLMTUSR)

Specifies whether a user whose profile is set for limited capabilities is allowed to use the command by typing it in the command line on a menu.

**\*NO** This command cannot be entered in the command line on a menu by a user whose profile is set for limited capabilities.

**\*YES** This command can be entered in the command line on a menu by a user whose profile is set for limited capabilities.

Top

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## Maximum positional parameters (MAXPOS)

Specifies the maximum number of parameters that can be specified positionally (without the parameter keyword) for this command. This parameter value must be greater than the number of nonconstant required parameters and less than the total number of nonconstant parameters. Parameters of TYPE(\*ZEROELEM), parameters with the CONSTANT attribute, and lists and qualified names whose ELEMs and QUALs have the CONSTANT attribute or are of TYPE(\*ZEROELEM) are not included in the number of parameters that can be coded positionally for this command.

### \*NOMAX

No maximum positional coding limit is specified for this command.

**0-99** Specify the maximum number of positional parameters.

Top

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## Message file for prompt text (PMTFILE)

Specifies the message file from which the prompt text for the command is retrieved.

### Single values

#### \*NONE

No message file is needed for the prompt text. The text, if any, is supplied in the definition statements that define the command.

### Element 1: Message file for prompt text

#### Qualifier 1: Message file

*name* Specify the name of the message file.

#### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the message file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the message file is located.

### Element 2: Message text

Specifies how the command being created will use the prompt message information stored in the command object when the command is prompted.

#### \*STATIC

When the command is prompted, the prompt text will be retrieved from the static copies of the messages stored in the \*CMD object when the command was created. If you want the command to have prompt text in more than one national language, you will need to create a separate \*CMD for each national language.

#### \*DYNAMIC

When the command is prompted, prompt text messages will be dynamically retrieved from the

message file specified for this parameter using the message identifiers stored in the \*CMD object when the command was created. The message identifier specified for the PROMPT or CHOICE parameter on a CMD, PARM, QUAL, or ELEM command definition statement must be found in the prompt text message file when the command is being prompted.

If an error occurs locating the message file when the command is prompted, all prompt text will be retrieved from the static copies of prompt messages stored in the \*CMD object. If the message file is found, but an individual prompt text message is not found in the message file, the static copy of the prompt text stored in the \*CMD object is used for that one message.

Creating a command with message identifiers specified for PROMPT and CHOICE, a message file specified the first element of this parameter, and \*DYNAMIC specified for the second element results in a single command that can have prompt text in more than one national language. By having a copy of the prompt text message file in the desired national language found in the library list at prompt time, the same command can prompt in any national language. Starting in V6R1, CL commands for the operating system and most IBM products will use the \*DYNAMIC option to enable a single copy of the command to handle all installed national language versions.

Top

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## Message file (MSGF)

Specifies the message file from which messages identified on the Dependency (DEP) command definition statements are retrieved. The **Message identifier (MSGID)** parameter on the DEP statements lets you specify the message identifier to be sent if a parameter syntax error is detected. For message identifiers with a three-character prefix other than 'CPF', the message file specified for this parameter will be used. QCPFMSG is always used for as the message file for messages that have the prefix 'CPF' in the message identifier.

### Qualifier 1: Message file

#### QCPFMSG

Message file QCPFMSG is the file from which DEP error messages are retrieved.

*name* Specify the name of the message file from which DEP error messages are retrieved.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the message file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the message file is located.

Top

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## Help bookshelf (HLPSHELF)

This parameter is no longer supported.

Top

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## Help panel group (HLPPNLGRP)

Specifies the help panel group for this command.

### Single values

#### \*NONE

No help panel group is specified.

### Qualifier 1: Help panel group

*name* Specify the name of the help panel group for this command.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the panel group. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the panel group is located.

Top

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## Help identifier (HLPID)

Specifies the root name for all help section identifiers for this command. All help sections in the help panel group associated with this command will begin with this name.

#### \*NONE

No help identifier is specified. \*NONE is not allowed if a panel group name is specified for the **Help panel group (HLPPNLGRP)** parameter.

\*CMD The name of the command is to be used as the root for help section identifiers in the help panel group.

*name* Specify the root name for the help section identifiers for this command.

Top

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## Help search index (HLPSCHIDX)

Specifies the help search index to use when the search index function key is pressed from the help screen.

### Single values

#### \*NONE

No help search index is associated with this command.

### Qualifier 1: Help search index

*name* Specify the name of the search index to be used when the search index function key is pressed.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the search index. If no library is specified as the current library for the job, the QGPL library is used.

*name* Specify the name of the library where the search index is located.

Top

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## Current library (CURLIB)

Specifies the name of the current library associated with the job being run.

**Note:** This library is also the current library when the validity checker program (if any) is processed for the command.

### \*NOCHG

The current library does not change for the processing of this command. If the current library is changed during processing of the command, the change remains in effect after command processing is complete.

### \*CRTDFT

No current library is active during the processing of the command. The current library that was active before command processing began is restored when processing is completed.

If \*CURLIB was specified as the to-value for any single values or special values for this command, or for any command processed while no current library is active, the QGPL library is used as the current library.

*name* Specify the name of the library that is used as the current library. The library need not exist when the command is created, but must exist when the command is processed. When command processing is completed, the current library is restored to its previous value. If the current library is changed during command processing by the Change Library List (CHGLIBL) command or Change Current Library (CHGCURLIB) command, the change is effective only until the command is processed. QTEMP cannot be specified for the current library.

Top

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## Product library (PRDLIB)

Specifies the product library that is to be in effect during the processing of the command.

**Note:** The product library for a command or menu remains in the library list while a command or menu is active, unless another command or menu changes the product library. When a command or menu that changed the product library ends, the product library is restored to what it was when the command or menu started.

### \*NOCHG

The product library is not changed when processing of the command starts. If the product library is changed during the processing of the command, the change remains in effect after command processing is complete.

### \*NONE

There is no product library in the job's library list. The product library is restored to its previous value when command processing is complete.

*name* Specify the name of the library to be used as the product library during command processing. The library need not exist when the command is created, but must exist when the command is processed. When command processing is completed, the product library is restored to its previous value. QTEMP cannot be specified for the product library.

Top

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## Prompt override program (PMTOVRPGM)

Specifies the name and library of the prompt override program (POP) that will replace (on the prompt display) the default values with the current actual values specified for the parameter. If a POP is specified, the key parameters (specified as KEYPARM(\*YES) on the PARM statement in the command definition source) are the only parameters visible on the initial prompt display. When values are input for the key parameters, the remaining parameters are shown on the display with the actual values instead of the default values.

### \*NONE

No prompt override program is specified.

**Note:** If \*NONE is specified when key parameters exist in the command definition source (that is when KEYPARM(\*YES) is specified on the PARM statement), a warning message is issued when the command is created, and KEYPARM(\*NO) will be assumed for all parameters.

*name* Specify the name of the prompt override program for the command.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the job is used to locate the prompt override program. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the prompt override program is located.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified on the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the **Create authority (CRTAUT)** parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

*name* Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

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## Replace command (REPLACE)

Specifies whether or not an existing command object with the same name and library as the command being created should be replaced.

If you specify \*YES and a command object already exists with the same name and in the same library, the existing command is renamed and moved to library QRPLOBJ, and will be deleted the next time an IPL of the operating system occurs.

**\*YES** If the create operation is successful, existing commands are replaced by new versions of the same command.

**\*NO** Existing commands are not replaced, and the creation of new commands with the same name, type, and library as the existing commands is not allowed.

Top

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## Enable GUI (ENBGUI)

Specifies whether the command prompt panels are enabled for conversion to a graphical user interface.

**\*NO** The command prompt panels are not enabled for conversion to a graphical user interface.

**\*YES** The command prompt panels are enabled for conversion to a graphical user interface by including information about the panel content in the 5250 data stream.

Top

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## Examples

```
CRTCMD  CMD(PAYROLL) PGM(PAY076) SRCFILE(PAYSOURCE)
        AUT(*EXCLUDE)
```

The command named PAYROLL is created from the source file PAYSOURCE. The command is private and calls the command processing program (CPP) named PAY076. It is a valid command when entered in a batch input stream, when compiled in a control language program, when entered interactively, or when passed to the QCMDXEC program.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF0201

Command &2 not created in library &3.

#### CPF0210

Cannot open printer file.

**CPF0212**

Unable to open source file.

[Top](#)



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## Create Class-of-Service Desc (CRTCOSD)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Create Class-of-Service Description (CRTCOSD) command creates a class-of-service description. A class-of-service description determines the nodes and transmission groups that are eligible for inclusion in advanced program-to-program communications (APPC) or Advanced Peer-to-Peer Networking (APPN). More information on class-of-services is in the APPN information in the Networking category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> and the APPC Programming book, SC41-5443.

Top

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### Parameters

Keyword	Description	Choices	Notes
COSD	Class-of-service description	<i>Communications name</i>	Required, Positional 1
TMSPTY	Transmission priority	*LOW, * <u>MED</u> , *HIGH	Optional

Keyword	Description	Choices	Notes
ROW1LINE	Row 1 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>30</u>	
	Element 2: Minimum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, <u>4M</u> , 10M, 16M, *MAX	
	Element 3: Maximum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, * <u>MAX</u>	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>0</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>0</u>	
	Element 8: Minimum security for line	* <u>NONSECURE</u> , *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 9: Maximum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, * <u>MAX</u>	
	Element 10: Minimum propagation delay	* <u>MIN</u> , *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 11: Maximum propagation delay	*MIN, * <u>LAN</u> , *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW1NODE	Row 1 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>5</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>31</u>	
	Element 4: Minimum congestion for node	* <u>LOW</u> , *HIGH	
	Element 5: Maximum congestion for node	* <u>LOW</u> , *HIGH	

Keyword	Description	Choices	Notes
ROW2LINE	Row 2 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>60</u>	
	Element 2: Minimum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, <u>56000</u> , 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 3: Maximum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, * <u>MAX</u>	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>0</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>0</u>	
	Element 8: Minimum security for line	* <u>NONSECURE</u> , *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 9: Maximum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, * <u>MAX</u>	
	Element 10: Minimum propagation delay	* <u>MIN</u> , *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 11: Maximum propagation delay	*MIN, *LAN, * <u>TELEPHONE</u> , *PKTSWTNET, *SATELLITE, *MAX	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW2NODE	Row 2 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>10</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>63</u>	
	Element 4: Minimum congestion for node	* <u>LOW</u> , *HIGH	
	Element 5: Maximum congestion for node	* <u>LOW</u> , *HIGH	

Keyword	Description	Choices	Notes
ROW3LINE	Row 3 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>90</u>	
	Element 2: Minimum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, <b>19200</b> , 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 3: Maximum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>0</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>0</u>	
	Element 8: Minimum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 9: Maximum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 10: Minimum propagation delay	*MIN, *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 11: Maximum propagation delay	*MIN, *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW3NODE	Row 3 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>20</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>95</u>	
	Element 4: Minimum congestion for node	*LOW, *HIGH	
	Element 5: Maximum congestion for node	*LOW, *HIGH	

Keyword	Description	Choices	Notes
ROW4LINE	Row 4 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>120</u>	
	Element 2: Minimum link speed	*MIN, 1200, 2400, 4800, 7200, <b>9600</b> , 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 3: Maximum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, * <b>MAX</b>	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>0</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>0</u>	
	Element 8: Minimum security for line	* <b>NONSECURE</b> , *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 9: Maximum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, * <b>MAX</b>	
	Element 10: Minimum propagation delay	* <b>MIN</b> , *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 11: Maximum propagation delay	*MIN, *LAN, * <b>TELEPHONE</b> , *PKTSWTNET, *SATELLITE, *MAX	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW4NODE	Row 4 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>40</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>127</u>	
	Element 4: Minimum congestion for node	* <b>LOW</b> , *HIGH	
	Element 5: Maximum congestion for node	* <b>LOW</b> , *HIGH	

Keyword	Description	Choices	Notes
ROW5LINE	Row 5 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>150</u>	
	Element 2: Minimum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, <b>19200</b> , 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 3: Maximum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>0</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>0</u>	
	Element 8: Minimum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 9: Maximum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 10: Minimum propagation delay	*MIN, *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 11: Maximum propagation delay	*MIN, *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW5NODE	Row 5 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>80</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>159</u>	
	Element 4: Minimum congestion for node	*LOW, *HIGH	
	Element 5: Maximum congestion for node	*LOW, *HIGH	

Keyword	Description	Choices	Notes
ROW6LINE	Row 6 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>180</u>	
	Element 2: Minimum link speed	*MIN, 1200, 2400, 4800, 7200, <b>9600</b> , 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 3: Maximum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, * <b>MAX</b>	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>128</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>128</u>	
	Element 8: Minimum security for line	* <b>NONSECURE</b> , *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 9: Maximum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, * <b>MAX</b>	
	Element 10: Minimum propagation delay	* <b>MIN</b> , *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 11: Maximum propagation delay	*MIN, *LAN, *TELEPHONE, * <b>PKTSWTNET</b> , *SATELLITE, *MAX	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW6NODE	Row 6 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>100</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>191</u>	
	Element 4: Minimum congestion for node	* <b>LOW</b> , *HIGH	
	Element 5: Maximum congestion for node	* <b>LOW</b> , *HIGH	

Keyword	Description	Choices	Notes
ROW7LINE	Row 7 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>210</u>	
	Element 2: Minimum link speed	*MIN, 1200, 2400, <b>4800</b> , 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, *MAX	
	Element 3: Maximum link speed	*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, * <b>MAX</b>	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>196</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>196</u>	
	Element 8: Minimum security for line	* <b>NONSECURE</b> , *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 9: Maximum security for line	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, * <b>MAX</b>	
	Element 10: Minimum propagation delay	* <b>MIN</b> , *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
	Element 11: Maximum propagation delay	*MIN, *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, * <b>MAX</b>	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW7NODE	Row 7 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>120</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>223</u>	
	Element 4: Minimum congestion for node	* <b>LOW</b> , *HIGH	
	Element 5: Maximum congestion for node	* <b>HIGH</b> , *LOW	



Keyword	Description	Choices	Notes
ROW8LINE	Row 8 for lines	<i>Element list</i>	Optional
	Element 1: Line row weight	0-255, <u>240</u>	
	Element 2: Minimum link speed	* <b>MIN</b> , 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, * <b>MAX</b>	
	Element 3: Maximum link speed	* <b>MIN</b> , 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, * <b>MAX</b>	
	Element 4: Minimum cost/connect time	0-255, <u>0</u>	
	Element 5: Maximum cost/connect time	0-255, <u>255</u>	
	Element 6: Minimum cost/byte	0-255, <u>0</u>	
	Element 7: Maximum cost/byte	0-255, <u>255</u>	
	Element 8: Minimum security for line	* <b>NONSECURE</b> , *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, * <b>MAX</b>	
	Element 9: Maximum security for line	* <b>NONSECURE</b> , *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, * <b>MAX</b>	
	Element 10: Minimum propagation delay	* <b>MIN</b> , *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, * <b>MAX</b>	
	Element 11: Maximum propagation delay	* <b>MIN</b> , *LAN, *TELEPHONE, *PKTSWTNET, *SATELLITE, * <b>MAX</b>	
	Element 12: Minimum user-defined 1	0-255, <u>0</u>	
	Element 13: Maximum user-defined 1	0-255, <u>255</u>	
	Element 14: Minimum user-defined 2	0-255, <u>0</u>	
	Element 15: Maximum user-defined 2	0-255, <u>255</u>	
	Element 16: Minimum user-defined 3	0-255, <u>0</u>	
Element 17: Maximum user-defined 3	0-255, <u>255</u>		
ROW8NODE	Row 8 for nodes	<i>Element list</i>	Optional
	Element 1: Node row weight	0-255, <u>150</u>	
	Element 2: Min route addition resistance	0-255, <u>0</u>	
	Element 3: Max route addition resistance	0-255, <u>255</u>	
	Element 4: Minimum congestion for node	* <b>LOW</b> , * <b>HIGH</b>	
	Element 5: Maximum congestion for node	* <b>HIGH</b> , * <b>LOW</b>	
TEXT	Text 'description'	<i>Character value</i> , * <b>BLANK</b>	Optional
AUT	Authority	<i>Name</i> , * <b>CHANGE</b> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

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## Class-of-service description (COSD)

Specifies the name of the class-of-service description.

This is a required parameter.

This name ranges from 1 to 8 characters.

This is a required parameter.

Top

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## Transmission priority (TMSPTY)

Specifies the transmission priority for this class-of-service description.

**\*LOW** The lowest transmission priority is used for this class-of-service description.

**\*MED** Medium transmission priority is used for this class-of-service description.

**\*HIGH**  
The highest transmission priority is used for this class-of-service description.

Top

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## Row 1 for lines (ROW1LINE)

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

### *line-weighting-factor*

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.

### *minimum-link-speed*

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

### *maximum-link-speed*

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

### *minimum-cost/connect-time*

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/connect-time***

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-cost/byte***

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/byte***

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-security***

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***maximum-security***

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***minimum-propagation-delay***

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***maximum-propagation-delay***

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)

- \*MAX (Maximum propagation delay)

#### *user-defined-fields*

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

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## Row 1 for nodes (ROW1NODE)

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.

#### *node-weighting-factor*

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

#### *route-addition-resistance-minimum*

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

#### *route-addition-resistance-maximum*

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

#### *congestion-minimum*

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

#### *congestion-maximum*

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

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## Row 2 for lines (ROW2LINE)

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

#### *line-weighting-factor*

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.

#### *minimum-link-speed*

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

#### *maximum-link-speed*

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000,

614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

***minimum-cost/connect-time***

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/connect-time***

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-cost/byte***

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/byte***

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-security***

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***maximum-security***

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***minimum-propagation-delay***

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***maximum-propagation-delay***

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)

- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

*user-defined-fields*

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

## Row 2 for nodes (ROW2NODE)

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.

*node-weighting-factor*

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

*route-addition-resistance-minimum*

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

*route-addition-resistance-maximum*

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

*congestion-minimum*

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

*congestion-maximum*

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

## Row 3 for lines (ROW3LINE)

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

*line-weighting-factor*

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.

*minimum-link-speed*

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

***maximum-link-speed***

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

***minimum-cost/connect-time***

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/connect-time***

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-cost/byte***

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/byte***

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-security***

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***maximum-security***

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***minimum-propagation-delay***

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)



### *maximum-propagation-delay*

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

### *user-defined-fields*

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

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## **Row 3 for nodes (ROW3NODE)**

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.

### *node-weighting-factor*

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

### *route-addition-resistance-minimum*

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

### *route-addition-resistance-maximum*

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

### *congestion-minimum*

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

### *congestion-maximum*

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

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## **Row 4 for lines (ROW4LINE)**

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

### *line-weighting-factor*

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.



***minimum-link-speed***

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

***maximum-link-speed***

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

***minimum-cost/connect-time***

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/connect-time***

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-cost/byte***

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/byte***

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-security***

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***maximum-security***

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***minimum-propagation-delay***

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)

- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***maximum-propagation-delay***

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***user-defined-fields***

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

## Row 4 for nodes (ROW4NODE)

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.

***node-weighting-factor***

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

***route-addition-resistance-minimum***

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

***route-addition-resistance-maximum***

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

***congestion-minimum***

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

***congestion-maximum***

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

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## Row 5 for lines (ROW5LINE)

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

### *line-weighting-factor*

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.

### *minimum-link-speed*

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

### *maximum-link-speed*

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

### *minimum-cost/connect-time*

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *maximum-cost/connect-time*

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *minimum-cost/byte*

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *maximum-cost/byte*

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *minimum-security*

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

### *maximum-security*

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)

- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***minimum-propagation-delay***

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***maximum-propagation-delay***

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***user-defined-fields***

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

## Row 5 for nodes (ROW5NODE)

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.

***node-weighting-factor***

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

***route-addition-resistance-minimum***

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

***route-addition-resistance-maximum***

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

***congestion-minimum***

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

### *congestion-maximum*

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

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## **Row 6 for lines (ROW6LINE)**

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

### *line-weighting-factor*

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.

### *minimum-link-speed*

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

### *maximum-link-speed*

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

### *minimum-cost/connect-time*

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *maximum-cost/connect-time*

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *minimum-cost/byte*

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *maximum-cost/byte*

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *minimum-security*

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

### *maximum-security*

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

### *minimum-propagation-delay*

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

### *maximum-propagation-delay*

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

### *user-defined-fields*

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

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## **Row 6 for nodes (ROW6NODE)**

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.

### *node-weighting-factor*

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

### *route-addition-resistance-minimum*

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.



***route-addition-resistance-maximum***

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

***congestion-minimum***

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

***congestion-maximum***

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

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## Row 7 for lines (ROW7LINE)

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

***line-weighting-factor***

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.

***minimum-link-speed***

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

***maximum-link-speed***

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

***minimum-cost/connect-time***

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/connect-time***

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-cost/byte***

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***maximum-cost/byte***

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

***minimum-security***

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)

- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***maximum-security***

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

***minimum-propagation-delay***

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***maximum-propagation-delay***

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

***user-defined-fields***

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

## Row 7 for nodes (ROW7NODE)

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.



*node-weighting-factor*

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

*route-addition-resistance-minimum*

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

*route-addition-resistance-maximum*

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

*congestion-minimum*

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

*congestion-maximum*

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

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## Row 8 for lines (ROW8LINE)

Specifies the list of line-related criteria used for the first through eighth rows of the class-of-service description. Each row describes the attributes of the line connection between two nodes in the APPN network. The rows are examined in order from first through eighth to attempt to define a network routing path. The list shows a value for each of the following elements.

*line-weighting-factor*

Specifies the relative weight of this row for line connections. The weight ranges from 0 to 255. The more desirable line connections are assigned the lower weights.

*minimum-link-speed*

Specifies the minimum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

*maximum-link-speed*

Specifies the maximum link speed for a line connection that is accepted by this line row criteria. Valid values are \*MIN, 1200, 2400, 4800, 7200, 9600, 14400, 19200, 48000, 56000, 64000, 112000, 128000, 168000, 192000, 224000, 256000, 280000, 320000, 336000, 384000, 448000, 499000, 576000, 614000, 691000, 768000, 845000, 922000, 998000, 1075000, 1152000, 1229000, 1382000, 1536000, 1690000, 1843000, 1997000, 4M, 10M, 16M, or \*MAX bps.

*minimum-cost/connect-time*

Specifies the minimum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

*maximum-cost/connect-time*

Specifies the maximum relative cost per connect time that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

*minimum-cost/byte*

Specifies the minimum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *maximum-cost/byte*

Specifies the maximum relative cost per byte that is accepted by this line row criteria. Valid costs range from 0 to 255. 0 implies a low cost, while 255 indicates a high cost.

### *minimum-security*

Specifies the minimum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

### *maximum-security*

Specifies the maximum security level that is accepted by this line row criteria. Valid values are in order from least to most secure.

- \*NONSECURE (No Security)
- \*PKTSWTNET (Packet Switched Network)
- \*UNDGRDCBL (Underground Cable)
- \*SECURECND (Secure Conduit)
- \*GUARDCND (Guarded Conduit)
- \*ENCRYPTED (Encrypted Line)
- \*MAX (Guarded Conduit, protected against physical and radiation tapping)

### *minimum-propagation-delay*

Specifies the minimum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

### *maximum-propagation-delay*

Specifies the maximum propagation delay that is accepted by this line row criteria. Valid values are in order from least to longest delay.

- \*MIN (Minimum propagation delay)
- \*LAN (Propagation delay using a local area network)
- \*TELEPHONE (Propagation delay using telephone lines)
- \*PKTSWTNET (Propagation delay using a packet switched network)
- \*SATELLITE (Propagation delay using satellite communications)
- \*MAX (Maximum propagation delay)

### *user-defined-fields*

Specify your own line connection criteria with three user-defined fields (with minimum and maximum ranges for each field). Valid values are 0 to 255.

Top

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## Row 8 for nodes (ROW8NODE)

Specifies the list of node-related criteria used for the first through eighth rows of the class-of-service description. This row describes the attributes of a node in the APPN network. The rows are examined in order from the first through eighth rows to define a network routing path. The list shows a value for each of the following elements.

### *node-weighting-factor*

Specifies the relative weight of this row for nodes. The weight ranges from 0 to 255. The more desirable nodes are assigned the lower weights.

### *route-addition-resistance-minimum*

Specifies the minimum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

### *route-addition-resistance-maximum*

Specifies the maximum route addition resistance accepted by this node row criteria. Valid values range from 0 to 255. 0 implies a low resistance, and 255 indicates a high resistance.

### *congestion-minimum*

Specifies the minimum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

### *congestion-maximum*

Specifies the maximum congestion level accepted by this node criteria. Valid values are \*LOW (low congestion level) or \*HIGH (high congestion level).

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### **\*BLANK**

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file.

The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCOSD  COSD(COSD1)
          ROW1LINE(15 9600 19200 20 30
                  50 75 *SECURECND *GUARDCND
                  *PKTSWTNET *SATELLITE 100 200 50 100 25 50)
          TEXT('customized Row1line')
```

This command creates COSD1. All values are specified for Row1Line, and defaults are accepted for all the other rows.

Top

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## Error messages

### \*ESCAPE Messages

**CPF26CB**

Class-of-service description &1 not created due to errors.

**CPF2610**

Parameter not valid.

**CPF2660**

Class-of-service description &1 already exists.

**CPF9838**

User profile storage limit exceeded.

Top

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## Create CRQ Description (CRTCRQD)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Change Request Description (CRTCRQD) command can be used to create a change request description. A change request description contains a list of activities that are performed to complete the specified change.

Top

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### Parameters

Keyword	Description	Choices	Notes
CRQD	Change request description	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Change request description	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
USRPRF	User profile	<i>*SBM, *OWNER</i>	Optional
PRBID	Problem identifier	<i>Character value, *NONE</i>	Optional
PRBORG	Problem origin	<i>Element list</i>	Optional
	Element 1: Network identifier	<i>Communications name, *NETATR</i>	
	Element 2: Control point name	<i>Communications name, *NETATR</i>	
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Name, *EXCLUDE, *LIBCRTAUT, *CHANGE, *ALL, *USE</i>	Optional

Top

---

### Change request description (CRQD)

Specifies the name and the library of the change request description being created.

The name of the change request description can be qualified by one of the following library values:

#### \*CURLIB

The change request description is created in the current library for the job. If no library is specified as the current library for the job, the QGPL library is used.

#### *library-name*

Specify the name of the library where the change request description is created.

The possible values are:

#### *change-request-description-name*

Specify the name of the change request description being created.

This is a required parameter.

---

## User profile (USRPRF)

Specifies whether the authority checking (done while this change request is running) is based on the user who submitted the change request description or on the owner of the change request description. The user profile is used to run the change request and control which objects can be used by the change request.

The possible values are:

**\*SBM** The user profile of the submitter is used when the change request is run.

**\*OWNER**

The user profile of the change request description owner is used when the change request is run.

**Note:** This is not like a program that runs under its owner's profile, for which both the program owner and the program user profiles are used. Only the owner's profile is used if this value is specified.

Top

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## Problem identifier (PRBID)

Specifies the ID of the problem to be associated with this change request description. Problems with different origin systems might have the same identifier.

The possible values are:

**\*NONE**

A problem ID is not specified.

*problem-identifier*

Specify the ID of the problem to be associated with the change request description. If a problem ID is not found, a diagnostic message is issued.

Top

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## Problem Origin (PRBORG)

Specifies the origin system of the problem ID.

The possible network identifier values are:

**\*NETATR**

The network ID is the same as the one defined in the network attributes for this system.

*network-identifier*

Specify a network ID.

The possible control point name values are:

**\*NETATR**

The control point name is the same as the local control point name defined in the network attributes for this system.

*control-point-name*

Specify a control point name.

---

## Text 'description' (TEXT)

Specifies text that briefly describes the object. More information on this parameter is in the CL Reference book, Appendix A.

The possible values are:

**\*BLANK**

Text is not specified.

**'description'**

Specify a maximum of 50 characters, enclosed in apostrophes.

---

## Authority (AUT)

Specifies the authority given to users who do not have specific authority to the object, who are not on an authorization list, and whose user group has no specific authority to the object.

The possible values are:

**\*EXCLUDE**

The user cannot access the object.

**\*LIBCRTAUT**

The public authority for the object is taken from the value on the CRTAUT parameter of the target library (the library that is to contain the object). The public authority is determined when the object is created. If the CRTAUT value for the library changes after the object is created, the new value does not affect any existing objects.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence authority and object management authority. The user can change and perform basic functions on the object. Change authority provides object operational authority and all data authority.

**Note:** The user with \*CHANGE authority cannot change the user profile value (USRPRF). To change the user profile value, the user must be the owner or must have \*ALLOBJ and \*SECADM authority.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user can also change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**authorization-list-name**

Specify the name of the authorization list whose authority is used.

---

## Examples

### Example 1: Creating a Change Request Description in Your Own Library

```
CRTCRQD CRQD(MYLIB/CHG001)
```

This command creates a change request description in MYLIB with the name CHG001 and a text description.

### Example 2: Creating a Change Request Description That Runs Under Another Person's Profile

```
CRTCRQD CRQD(CHG222) USRPRF(*SBM)
```

This command creates a change request description called CHG222 that runs under the user profile that submits it.

### Example 3: Creating a Change Request Description and Associating a Problem With It

```
CRTCRQD CRQD(CHG999) PRBID(1234567890) PRBORG(*NETATR STORE101)
```

This command creates a change request description in \*CURLIB called CHG999 that is associated with problem ID 1234567890. The problem origin network ID is the same as the local system. The control point name is STORE101.

[Top](#)

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## Error messages

### \*ESCAPE Messages

#### CPF969A

Change request description created, but warnings exist.

[Top](#)



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## Create Comm Side Information (CRTCSI)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Communications Side Information (CRTCSI) command creates a side information object in a specific library. The side information object name must be unique in the library in which the side information object is to be created. More information on how the system uses the RMTLOCNAME, DEV, LCLLOCNAME, and RMTNETID parameters to select an APPC device description is in the APPC Programming book, SC41-5443.

Top

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### Parameters

Keyword	Description	Choices	Notes
CSI	Side information	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Side information	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
RMTLOCNAME	Remote location	<i>Communications name</i>	Optional
TNSPGM	Transaction program	<i>Character value</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
DEV	Device	<i>Communications name, *LOC</i>	Optional
LCLLOCNAME	Local location	<i>Communications name, *LOC, *NETATR</i>	Optional
MODE	Mode	<i>Communications name, *NETATR</i>	Optional
RMTNETID	Remote network identifier	<i>Communications name, *LOC, *NETATR, *NONE</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

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### Side information (CSI)

Specifies the name of the side information object to be created. An object name must be specified.

This is a required parameter.

#### *side-information-name*

Specify the name of the object that will contain the desired side information object.

The possible library values are:

#### **\*CURLIB**

The side information object is created in the current library. If no library is specified as the current library for the job, QGPL is used.

#### *library-name*

Specify the name of the library where the side information object is created.

Top

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## Remote location (RMTLOCNAME)

Specifies the remote location name with which your program communicates. The Common Programming Interface (CPI)- Communications partner\_LU\_name, which consists of the remote network identifier and the remote location, determines the remote logical unit of the remote program.

This is a required parameter.

Top

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## Transaction program (TNSPGM)

Specifies the name (up to 64 characters) of the transaction program on the remote system to be started.

**Note:** To specify SNA service transaction program names, enter the hexadecimal representation of the service transaction program name. For example, to specify a service transaction program name whose hexadecimal representation is 21F0F0F1, you would enter X'21F0F0F1'.

More information on SNA service transaction program names is in the SNA Transaction Programmer's Reference Manual for LU Type 6.2.

This is a required parameter.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

The possible values are:

**\*BLANK**

No text is specified.

***'description'***

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Device (DEV)

Specifies the name of the device description used for the remote system.

The possible values are:

**\*LOC**

***device-name***

The device is determined by the system.

Top

---

## Local location (LCLLOCNAME)

Specifies the local location name.

The possible values are:

**\*LOC** The local location name is determined by the system.

**\*NETATR**

The LCLLOCNAME value specified in the system network attributes is used.

*local-location-name*

Specify the name of your location. Specify the local location if you want to indicate a specific location name for the remote location.

Top

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## Mode (MODE)

Specifies the mode used to control the session. This name is the same as the Common Programming Interface (CPI)- Communications mode\_name.

The possible values are:

**\*NETATR**

The mode in the network attributes is used.

**BLANK**

Eight blank characters are used.

*mode-name*

Specify a mode name for the remote location.

**Note:** The values SNASVCMG and CPSVCMG are not allowed.

Top

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## Remote network identifier (RMTNETID)

Specifies the remote network identifier used with the remote location. The Common Programming Interface (CPI)- Communications partner\_LU\_name, which consists of the remote network identifier and the remote location, determines the remote logical unit of the remote program.

The possible values are:

**\*LOC** The remote network ID for the remote location is used.

**\*NETATR**

The remote network identifier specified in the network attributes is used.

**\*NONE**

The remote network has no name.

*remote-network-id*

Specify a remote network ID.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

The possible values are:

### \*LIBCRTAUT

Public authority for the object is taken from the CRTAUT parameter of the specified library. This value is determined at create time. If the CRTAUT value for the library changes after the object is created, the new value does not affect existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

### *authorization-list*

Specify the name of the authorization list whose authority is used for the side information.

Top

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## Examples

```
CRTCSI  CSI(QGPL/SIDEOBJ) RMTLOCNAME(APPC2)
        TNSPGM(TESTNOP)  AUT(*CHANGE)
```

This command creates a communications side information object named SIDEOBJ in library QGPL. The remote location name is set to APPC2, the transaction program name to TESTNOP. The authority to the object is \*CHANGE.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF3B82

Communications side information object &1 already exists in library &2.

#### CPF3B83

Communications side information object &1 not created in library &2.





## Create Ctl Desc (APPC) (CRTCTLAPPC)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (APPC) (CRTCTLAPPC) command creates a controller description for an advanced program-to-program communications (APPC) controller. For more information about this command, see the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Key, Positional 1
LINKTYPE	Link type	*ANYNW, *FAX, *FR, *HPRIP, *ILAN, *LAN, *LOCAL, *OPC, *SDLC, *TDLC, *VRTAPPN, *X25	Required, Key, Positional 2
ONLINE	Online at IPL	*YES, *NO	Optional
SWITCHED	Switched connection	*NO, *YES	Optional
SHM	Short hold mode	*NO, *YES	Optional
SNBU	Switched network backup	*NO, *YES	Optional
APPN	APPN-capable	*YES, *NO	Optional
RMTINTNETA	Remote internet address	<i>Character value</i>	Optional
LCLINTNETA	Local internet address	<i>Character value</i> , *SYS	Optional
LDLCTMR	LDLC timers	<i>Element list</i>	Optional
	Element 1: LDLC retry count	0-255, <u>3</u>	
	Element 2: LDLC retry timer	0-65535, <u>15</u>	
	Element 3: LDLC liveness timer	0-65535, <u>10</u>	
LDLCLNKSPD	LDLC link speed	1200-603979776000, *CAMPUS, *WAN, 4M, 10M, 16M, 100M, *MIN, *MAX	Optional
LDLCTMSGRP	LDLC transmission group	<i>Element list</i>	Optional
	Element 1: Cost/connect time	0-255, <u>0</u>	
	Element 2: Cost/byte	0-255, <u>0</u>	
	Element 3: Security	*NONSECURE, *PKTSWTNET, *UNDGRDCBL, *SECURECND, *GUARDCND, *ENCRYPTED, *MAX	
	Element 4: Propagation delay	*LAN, *MIN, *TELEPHONE, *PKTSWTNET, *SATELLITE, *MAX	
TYPE	Controller type	*BLANK, *FBSS, 3174, 3274, 3651, 3684, 3694, 4680, 4684, 4701, 4702, 4730, 4731, 4732, 4736	Optional
LINE	Attached nonswitched line	<i>Name</i>	Optional
SWTLINLST	Switched line list	Values (up to 64 repetitions): <i>Name</i>	Optional

Keyword	Description	Choices	Notes
MAXFRAME	Maximum frame size	265-16393, 256, 265, 512, 521, 1024, 1033, 1496, 1994, 2048, 2057, 4060, 4096, 8156, 16393, <u>*LINKTYPE</u>	Optional
RMTNETID	Remote network identifier	<i>Communications name</i> , <u>*NETATR</u> , *NONE, *ANY	Optional
RMTCPNAME	Remote control point	<i>Communications name</i> , *ANY	Optional
RMTSYSNAME	Remote system name	<i>Character value</i>	Optional
EXCHID	Exchange identifier	00000000-FFFFFFFF	Optional
INLCNN	Initial connection	<u>*DIAL</u> , *ANS	Optional
DIALINIT	Dial initiation	<u>*LINKTYPE</u> , *IMMED, *DELAY	Optional
CNNNBR	Connection number	<i>Character value</i> , *DC, *ANY	Optional
ANSNBR	Answer number	<u>*CNNNBR</u> , *ANY	Optional
CNNLSTOUT	Outgoing connection list	<i>Name</i>	Optional
CNNLSTOUTE	Connection list entry	<i>Name</i>	Optional
ROLE	Data link role	<u>*NEG</u> , *PRI, *SEC	Optional
SHMDSCLMT	SHM disconnect limit	1-254, <u>10</u> , *NOMAX	Optional
SHMDSCTMR	SHM disconnect timer	2-3000, <u>50</u>	Optional
STNADR	Station address	00-FE	Optional
ADPTADR	LAN remote adapter address	000000000001-FFFFFFFFFFFF	Optional
DSAP	LAN DSAP	<u>04</u> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
SSAP	LAN SSAP	<u>04</u> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
NETLVL	X.25 network level	1980, 1984, 1988	Optional
LINKPCL	X.25 link level protocol	<i>Character value</i> , <u>*QLLC</u> , *ELLC, *LLC2	Optional
LGLCHLID	X.25 logical channel ID	<i>Character value</i>	Optional
CNNPWD	X.25 connection password	<i>Character value</i> , <u>X''</u>	Optional
CPSSN	APPN CP session support	<u>*YES</u> , *NO	Optional
NODETYPE	Remote APPN node type	<u>*ENDNODE</u> , *LENNODE, *NETNODE, *CALC	Optional
BEXROLE	Branch extender role	<u>*NETNODE</u> , *ENDNODE	Optional
HPR	APPN/HPR capable	<u>*YES</u> , *NO	Optional
HPRPTHSWT	HPR path switching	<u>*NO</u> , *YES	Optional
TMSGRPNBR	APPN transmission group number	1-20, <u>1</u> , *CALC	Optional
MINSWTSTS	APPN minimum switched status	<u>*VRYONPND</u> , *VRYON	Optional
AUTOCRTDEV	Autocreate device	<u>*ALL</u> , *NONE	Optional
AUTODLTDEV	Autodelete device	1-10000, <u>1440</u> , *NO	Optional
USRDFN1	User-defined 1	0-255, <u>*LIND</u>	Optional
USRDFN2	User-defined 2	0-255, <u>*LIND</u>	Optional
USRDFN3	User-defined 3	0-255, <u>*LIND</u>	Optional
MDLCTL	Model controller description	<u>*NO</u> , *YES	Optional
CNNNETID	Connection network ID	<i>Communications name</i> , <u>*NETATR</u> , *NONE	Optional
CNNCPNAME	Connection network CP	<i>Communications name</i>	Optional
TEXT	Text 'description'	<i>Character value</i> , <u>*BLANK</u>	Optional
DEV	Attached devices	Values (up to 254 repetitions): <i>Name</i>	Optional
CODE	Character code	<u>*EBCDIC</u> , *ASCII	Optional
SSCPID	SSCP identifier	000000000001-FFFFFFFFFFFF	Optional



Keyword	Description	Choices	Notes
IDLCWDSIZ	IDLC window size	1-31, * <u>LIND</u>	Optional
IDLCFRMRTY	IDLC frame retry	0-100, * <u>LIND</u>	Optional
IDLCRSPTMR	IDLC response timer	10-100, * <u>LIND</u>	Optional
IDLCCNNRTY	IDLC connect retry	1-100, * <u>LIND</u> , *NOMAX	Optional
PREDIALDLY	Predial delay	0-254, <u>6</u>	Optional
REDIALDLY	Redial delay	0-254, <u>120</u>	Optional
DIALRTY	Dial retry	0-254, <u>2</u>	Optional
SWTDSC	Switched disconnect	* <u>YES</u> , *NO	Optional
DSCTMR	Disconnect timer	<i>Element list</i>	Optional
	Element 1: Minimum connect timer	0-65535, <u>170</u>	
	Element 2: Disconnection delay timer	0-65535, <u>30</u>	
POLLPTY	SDLC poll priority	*NO, *YES	Optional
POLLMT	SDLC poll limit	0-4, <u>0</u>	Optional
OUTLMT	SDLC out limit	* <u>POLLMT</u> , 0, 1, 2, 3, 4	Optional
CNNPOLLRTY	SDLC connect poll retry	0-65534, * <u>CALC</u> , *NOMAX	Optional
NDMPOLLTMR	SDLC NDM poll timer	0-3000, * <u>CALC</u>	Optional
LANFRMRTY	LAN frame retry	0-254, * <u>CALC</u>	Optional
LANCNNRTY	LAN connection retry	0-254, * <u>CALC</u>	Optional
LANRSPTMR	LAN response timer	0-254, * <u>CALC</u>	Optional
LANCNNTMR	LAN connection timer	0-254, * <u>CALC</u>	Optional
LANACKTMR	LAN acknowledgement timer	0-254, * <u>CALC</u>	Optional
LANINACTMR	LAN inactivity timer	0-255, * <u>CALC</u>	Optional
LANACKFRQ	LAN acknowledgement frequency	0-127, * <u>CALC</u>	Optional
LANMAXOUT	LAN max outstanding frames	1-127, * <u>CALC</u>	Optional
LANACCPTY	LAN access priority	0-3, * <u>CALC</u>	Optional
LANWDWSTP	LAN window step	1-127, * <u>NONE</u>	Optional
SWTLINSLCT	X.25 switched line selection	* <u>FIRST</u> , *CALC	Optional
DFTPFSIZE	X.25 default packet size	<i>Element list</i>	Optional
	Element 1: Transmit value	* <u>LIND</u> , 64, 128, 256, 512, 1024, 2048, 4096	
	Element 2: Receive value	* <u>LIND</u> , *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096	
DFTWDWSIZE	X.25 default window size	<i>Element list</i>	Optional
	Element 1: Transmit value	1-15, * <u>LIND</u>	
	Element 2: Receive value	1-15, * <u>LIND</u> , *TRANSMIT	
USRGRPID	X.25 user group identifier	<i>Character value</i>	Optional
RVSCRG	X.25 reverse charging	* <u>NONE</u> , *REQUEST, *ACCEPT, *BOTH	Optional
X25FRMRTY	X.25 frame retry	0-21, <u>7</u>	Optional
X25CNNRTY	X.25 connection retry	0-21, <u>7</u>	Optional
X25RSPTMR	X.25 response timer	1-2550, <u>300</u>	Optional
X25CNNTMR	X.25 connection timer	1-2550, <u>300</u>	Optional
X25DLYTMR	X.25 delayed connection timer	1-32767, * <u>CALC</u>	Optional
X25ACKTMR	X.25 acknowledgement timer	0-2550, <u>20</u>	Optional
X25INACTMR	X.25 inactivity timer	1-2550, <u>1050</u>	Optional

Keyword	Description	Choices	Notes
USRFCL	User facilities	<i>Character value</i>	Optional
CMNRCYLMT	Recovery limits	Single values: *SYSVAL Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <u>2</u>	
	Element 2: Time interval	0-120, <u>5</u>	
MSGQ	Message queue	Single values: *SYSVAL, *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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## Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

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## Link type (LINKTYPE)

Specifies the type of line to which this controller is attached.

This is a required parameter.

### \*ANYNW

This controller is not directly attached to a line. It is being used to run APPC applications over a transport other than the native transport (SNA). RMTCPNAME and RMTNETID are required when \*ANYNW is specified. The following parameters are allowed:

- RMTNETID (remote network identifier)
- ONLINE (online at IPL)
- RMTCPNAME (remote CP NAME)
- USRDFN1 (user-defined 1)
- USRDFN2 (user-defined 2)
- USRDFN3 (user-defined 3)
- Text
- AUT (authority)
- CMNRCYLMT (communications recovery limit)

### \*FAX

This controller is attached to a local fax line. If \*FAX is specified, the following criteria must be met:

- The following parameters can be specified: online at IPL (ONLINE), attached devices (DEV), authority (AUT), text description (TEXT), and attached nonswitched line (LINE)

- The SWITCHED and APPN parameters must not be specified or have \*NO specified
- APPN support is not provided; therefore, all attached devices must have APPN(\*NO) specified

**\*FR**

This controller is attached to a frame relay line.

**\*HPRIP**

This controller will allow HPR (High Performance Routing) to use the Internet as a link layer, allowing HPR data to be transported over Internet networks.

**Note:** If \*HPRIP is specified, a value must be specified for the RMTINTNETA parameter.

**\*ILAN**

This controller does not use a communication line since all communications are within the system. This link type allows multiple operating systems (running on one physical system) to communicate without requiring a physical communications link.

**Note:** If LINKTYPE(\*ILAN) is specified, the value specified for NODETYPE must be \*LENNODE or \*NETNODE and the value specified on the SSAP parameter must be different than the value specified on the DSAP parameter.

**\*LAN**

This controller is attached to a distributed data interface (DDI), Ethernet, or token-ring local area network line.

**\*LOCAL**

This controller uses no communication lines since all communications are local. If \*LOCAL is specified, the following criteria must be met:

- SWITCHED, SNBU, and APPN must remain unspecified or be \*NO
- The LINE, MAXFRAME, RMTNETID, RMTCPNAME, EXCHID, CPSSN, NODETYPE, TMSGRPNBR, SSCPID, and ROLE parameters must not be specified
- Parameters relating to SDLC, X.21 short-hold mode, X.25, or LAN configuration must not be specified.
- Since LINKTYPE(\*LOCAL) controllers must have APPN(\*NO) specified, any attached devices must also have APPN(\*NO) specified

**\*OPC**

This controller is attached to the optical bus (OptiConnect).

**\*SDLC**

This controller is attached to a synchronous data link control (SDLC) line.

**\*TDLC**

This controller is attached to a twinaxial data link control (TDLC) line.

## **\*VRTAPPN**

This controller is used for APPN communications. It is not attached to any specific communications line. If \*VRTAPPN is specified, the following criteria must be met:

- SWITCHED and SNBU must remain unspecified or be \*NO
- APPN(\*YES) must be specified
- The LINE, MAXFRAME, RMTNETID, RMTCPNAME, EXCHID, CPSSN, NODETYPE, TMSGRPNBR, SSCPID, and ROLE parameters must not be specified
- Parameters relating to SDLC, X.21 short-hold mode, X.25, or LAN configuration must not be specified
- Since LINKTYPE(\*VRTAPPN) controllers are for supporting APPN communications, any attached devices must have APPN(\*YES) specified

## **\*X25**

This controller is attached to an X.25 line.

Top

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## **Online at IPL (ONLINE)**

Specifies whether this object is automatically varied on at initial program load (IPL).

### **\*YES**

The controller is automatically varied on at IPL.

### **\*NO**

The controller is not automatically varied on at IPL.

Top

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## **Switched connection (SWITCHED)**

Specifies whether this controller is attached to a switched line, a token-ring network, Ethernet LAN, or an X.25 switched virtual circuit (SVC). \*NO must be specified for APPC controllers attached to a TDLC line.

### **\*NO**

This controller is attached to a nonswitched line. Specify this value for controllers attaching to an X.25 permanent virtual circuit (PVC).

### **\*YES**

This controller is attached to a switched line. Specify this value for controllers attached to an X.25 switched virtual circuit (SVC). Also specify this value for controllers attached to a local area network.

**Note:** If LINKTYPE is \*LAN, the SWITCHED parameter value must be \*YES or must not be specified.

---

## Short hold mode (SHM)

Specifies whether this controller is to be used for X.21 short hold mode. To specify \*YES, you must also specify \*SDLC for the **Link type (LINKTYPE)** parameter, and \*YES for the **Switched connection (SWITCHED)** parameter.

### \*NO

This controller is not used for X.21 short hold mode.

### \*YES

This controller is used for X.21 short hold mode.

---

## Switched network backup (SNBU)

Specifies whether the remote system modem has the switched network backup (SNBU) feature. The backup feature is used to bypass a broken nonswitched (leased line) connection by establishing a switched connection. To activate SNBU, you must change the controller description of the modem from nonswitched to switched by specifying \*YES for the **Activate swt network backup (ACTSNBU)** parameter.

**Note:** If the modem model you are using is an IBM 386x, 586x, or 786x, you should not change the controller description. Instead, manually switch the modem to the unswitched mode, and manually dial the connection.

Both the local and remote modems must support the SNBU feature to perform a valid activation.

\*NO The remote system modem does not have the SNBU feature.

### \*YES

The remote system modem has the SNBU feature.

---

## APPN-capable (APPN)

Specifies whether the local system uses advanced peer-to-peer networking (APPN) functions when communicating with this controller. \*YES must be specified for APPC controllers attached to a TDLC line.

### \*YES

This controller is for APPN.

### \*NO

This controller is not for APPN.

---

## Remote internet address (RMTINTNETA)

Specifies the TCP/IP host name or internet address to which the controller will respond.

**Note:** This parameter is valid only when \*HPRIP is specified for the **Link type (LINKTYPE)** parameter.

### *host-name*

This is a valid host name or a domain qualified host name associated with an internet address. A name must be between 1 and 255 characters in length.

### *host-internet-address*

The internet address can be specified in either IPv4, IPv6 or IPv4 mapped to IPv6 form.

An IPv4 internet address is specified in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. Leading zeros in each part of the dotted decimal internet address are invalid and will be removed. An IPv4 internet address is not valid if it has a value of all binary ones or zeros for the network identifier (ID) or host portion of the address.

An IPv6 internet address is specified in the form *x::x::x::x::x*, where *x* is a hexadecimal number ranging from 0 through X'FFFF'. "::" may be used once in the IPv6 address to indicate one or more groups of 16 bits of zeros. The "::" may be used to compress leading, imbedded, or trailing zeros in the address.

An IPv4-mapped IPv6 address is specified in the form *::FFFF:nnn.nnn.nnn.nnn*, where *nnn* is decimal number ranging from 0 through 255.

If the internet address is entered from the command line, the address must be enclosed in apostrophes.

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## Local internet address (LCLINTNETA)

Specifies the TCP/IP interface to be used to communicate with the remote system.

**Note:** This parameter is valid only when \*HPRIP is specified for the **Link type (LINKTYPE)** parameter.

### \*SYS

The system will select the local internet address to use.

### *internet-address*

The internet address can be specified in either IPv4, IPv6 or IPv4 mapped to IPv6 form.

An IPv4 internet address is specified in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. Leading zeros in each part of the dotted decimal internet address are invalid and will be removed. An IPv4 internet address is not valid if it has a value of all binary ones or zeros for the network identifier (ID) or host portion of the address.

An IPv6 internet address is specified in the form *x::x::x::x::x::x*, where *x* is a hexadecimal number ranging from 0 through X'FFFF'. "::" may be used once in the IPv6 address to indicate one or more groups of 16 bits of zeros. The "::" may be used to compress leading, imbedded, or trailing zeros in the address.

An IPv4-mapped IPv6 address is specified in the form *::FFFF:nnn.nnn.nnn.nnn*, where *nnn* is decimal number ranging from 0 through 255.

If the internet address is entered from the command line, the address must be enclosed in apostrophes.

### *Alias-name*

The alias name is the same value that is specified on the ADDTCPIFC and CHGTCPIFC commands Alias name (ALIASNAME) parameter.

Top

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## **LDLC timers (LDLCTMR)**

Specifies LDLC (Logical Data Link Control) timers and retry count. The LDLC retry count and LDLC retry timer are used in conjunction. The LDLC retry count and LDLC retry timer are initialized when a command or request is first transmitted over the link. If the LDLC retry timer expires before a response is received, the command or request is retransmitted, the LDLC retry count is decremented and the LDLC retry timer is restarted. If the timer expires with the LDLC retry count at zero, the link is assumed to be inoperative. The LDLC liveness timer is used to make sure that both the other endpoint of an RTP (rapid transport protocol) connection and the path between the endpoints are still operational after a period of inactivity.

See High Performance Routing Architecture Reference (SV40-1018) for more information.

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/D50H6003/CCONTENTS](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/D50H6003/CCONTENTS)

**Note:** This parameter is valid only when \*HPRIP is specified for the **Link type (LINKTYPE)** parameter.

### **Element 1: LDLC retry count**

3 The LDLC retry count is 3.

#### *retry-count*

Specify the LDLC retry counter. Valid values range from 0 to 255.

### **Element 2: LDLC retry timer**

15 The LDLC retry timer is set to 15 seconds.

#### *retry-timer*

Specify the LDLC retry timer interval. Valid values range from 0 to 65535 seconds.

### **Element 3: LDLC liveness timer**

10 The LDLC liveness timer is set to 10.

#### *liveness-timer*

Specify the LDLC liveness timer. Valid values range from 0 to 65535 seconds.

Top

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## LDLC link speed (LDLCLNKSPD)

Specifies the LDLC (Logical Data Link Control) link speed in bits per second.

See High Performance Routing Architecture Reference (SV40-1018) for more information.

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/D50H6003/CCONTENTS](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/D50H6003/CCONTENTS)

**Note:** This parameter is valid only when \*HPRIP is specified for the **Link type (LINKTYPE)** parameter.

### \*CAMPUS

Specifies a set of default APPN link characteristics for a campus environment be used.

### \*WAN

Specifies a set of default APPN link characteristics for a wide-area network environment be used.

### 4M

The link speed is 4 million bits per second.

### 10M

The link speed is 10 million bits per second.

### 16M

The link speed is 16 million bits per second.

### 100M

The link speed is 100 million bits per second.

### \*MIN

A link speed of less than 1200 bits per second is used.

### \*MAX

A link speed greater than 100 million bits per second is used.

### *LDLC-link-speed*

Specify the LDLC link speed.

Valid values range from 1200 to 603979776000.

Top



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## LDLC transmission group (LDLCTMSGRP)

Specifies the LDLC (Logical Data Link Control) transmission group characteristics of Cost/connect time, Cost/byte, Security and Propagation delay.

See High Performance Routing Architecture Reference (SV40-1018) for more information.

[http://publibz.boulder.ibm.com/cgi-bin/bookmgr\\_OS390/BOOKS/D50H6003/CCONTENTS](http://publibz.boulder.ibm.com/cgi-bin/bookmgr_OS390/BOOKS/D50H6003/CCONTENTS)

**Note:** This parameter is valid only when \*HPRIP is specified for the **Link type (LINKTYPE)** parameter.

### Element 1: Cost/connect time

Cost per connect time specifies the relative cost of being connected over the link.

0 Cost per connect time is zero.

#### *cost-connection-time*

Specify the cost per connect time. Valid values range from 0 to 255.

### Element 2: Cost/byte

Cost per byte specifies the relative cost of sending and receiving data over the link.

0 Cost per byte is zero.

#### *cost-byte*

Specify the cost per byte. Valid values range from 0 to 255.

### Element 3: Security

Security specifies the security over the link.

#### \*NONSECURE

There is no security over the link.

#### \*PKTSWTNET

This is a packet-switched network, so the link is secure in the sense that the data does not always use the same path through the network.

#### \*UNDGRDCBL

This is an underground cable secure conduit.

#### \*SECURECND

This is a secured conduit but not guarded.

#### \*GUARDCND

The link is a guarded conduit and protected against physical tapping.

#### \*ENCRYPTED

Data flow is to be encrypted.

\*MAX This is a guarded conduit, protected against physical and radiation tapping.

### Element 4: Propagation delay

Propagation delay specifies the time required for a signal to travel from one end of a link to the other end.

\*LAN Specifies a local area network delay (less than 0.48 milliseconds).

\*MIN Specifies the minimum delay.

**\*TELEPHONE**

Specifies a telephone network with a delay from .48 milliseconds through 49.152 milliseconds.

**\*PKTSWTNET**

Specifies a packet-switched network with the delay from 49.152 through 245.76 milliseconds.

**\*SATELLITE**

Specifies satellite delay (greater than 245.76 milliseconds).

**\*MAX** Specifies the maximum delay.

Top

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## Controller type (TYPE)

Specifies the type of controller for this description. This parameter is valid only when \*NO is specified on the APPN parameter.

**\*BLANK**

No T2.0 controller is specified.

**\*FBSS**

This description represents a Financial Branch System Services (FBSS) controller.

**3174**

This description represents a 3174 controller.

**3274**

This description represents a 3274 controller.

**3651**

This description represents a 3651 controller.

**3684**

This description represents a 3684 controller.

**3694**

This description represents a 3694 check processor.

**4680**

This description represents a 4680 controller.

**4684**

This description represents a 4684 controller.

4701

This description represents a 4701 finance controller.

4702

This description represents a 4702 finance controller.

4730

This description represents a 4730 personal banking machine.

4731

This description represents a 4731 personal banking machine.

4732

This description represents a 4732 personal banking machine.

4736

This description represents a 4736 self-service transaction machine.

Top

---

## Attached nonswitched line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

**Note:** The associated line must be varied off before this command is entered. Specify this parameter for controllers attaching to an X.25 permanent virtual circuit (PVC).

Top

---

## Switched line list (SWTLINLST)

Specifies the names of the switched lines to which this controller attaches. The line descriptions must already exist. Up to 64 switched line names can be specified.

*switched-line-name*

Specify the names of up to 64 lines that are connected to this controller. The same line name can be used more than once. For each line name specified, a line description by that name must already exist.

Top

---

## Maximum frame size (MAXFRAME)

Specifies the maximum frame (path information unit (PIU)) size the controller can send or receive. This value is used to calculate the request unit (RU) sizes. Since the maximum PIU size that the controller can send or receive is negotiated at exchange identifier time, the maximum PIU size used at run time may be different. This value matches the corresponding value on the host system.

### \*LINKTYPE

The following values are used for the various types:

- \*LAN - 16393
- \*SDLC - 521
- \*TDLC - 4105
- \*IDLC - 2048
- \*X25 - 1024
- \*FR - 1590
- \*HPRIP - 1461

### *maximum-frame-size*

Specify the frame size for the controller. The frame size that can be used depends on the type of line being used. Valid frame sizes for each line type are:

- For \*FR, specify a value from 265 through 8182.
- For \*IDLC, specify a value ranging from 265 through 8196.
- For \*LAN, specify a value from 265 through 16393 (265 through 4444 for DDI LANs).
- For \*SDLC, specify 265, 521, 1033, or 2057.
- For \*X25, specify 256, 265, 512, 521, 1024, 1033, 2048, or 4096.

**Note:** The numeric values listed for \*LINKTYPE are valid only if TYPE(\*BLANK) is specified when the controller is created.

Top

---

## Remote network identifier (RMTNETID)

Specifies the NAME of the remote network in which the adjacent control point resides.

### \*NETATR

The LCLNETID value specified in the system network attributes is used.

### \*NONE

No remote network identifier (ID) is used.

### \*ANY

The system determines which remote network identifier is used.

### *remote-network-identifier*

Specify the remote network identifier.

Top

---

## Remote control point (RMTCPNAME)

Specifies the control point name of the remote system.

\*ANY

The system determines the name of the remote control point used.

*remote-control-point-name*

Specify the remote control point NAME.

Top

---

## Remote system name (RMTSYSNAME)

Specifies the NAME of the remote system to which there is an OptiConnect bus connection. The current system NAME of the remote system can be found by using the DSPNETA command on that system.

**Note:** This parameter is valid only when LINKTYPE(\*OPC) is specified.

Top

---

## Exchange identifier (EXCHID)

Specifies the remote exchange identifier of this controller. The controller sends (exchanges) its identifier to another location when a connection is established. The 8-digit hexadecimal identifier contains 3 digits for the block number and 5 digits for the identifier of the specific controller.

**Note:** This parameter is required for both SDLC switched lines and SNBU lines when either of the following occurs:

- Both APPN(\*YES) and NODETYPE(\*LENNODE) are specified.
- APPN(\*NO) is specified and RMTCPNAME is not specified.

The block number of the exchange identifier is related to the controller:

### Controller

#### Block Number

3174, 3274

001 to 0FE

3601 \* 016 (\* 3601 is configured as 4701)

3651, 3684

005

3694 02F

4680 04D

4684 005

4702, 4702  
057

5251 020

5294 045

5394 05F

5494 073

**System i5**  
056

**Displaywriter**  
03A

**System/36**  
03E

**System/38**  
022

For the 5251, 5394, and 5294 controllers, the last five digits must begin with 000. For 5494 controllers, the last five digits are either 000nn where nn is the station address of the 5494 controller, or the last five digits of the 5494 serial number when the serial number starts with XI.

Top

---

## Initial connection (INLCNN)

Specifies the method used to establish a connection with this controller.

### \*DIAL

The system initiates outgoing calls and answers incoming calls.

### \*ANS

The connection is made by the IBM System i5 when it answers an incoming call from this controller. If a call is received from the remote controller and all necessary conditions are met, the incoming call is answered by the system.

For X.25 connections, the line attached to the controller requires switched virtual circuits (SVCs) configured on the LGLCHLE parameter of type OUT or BOTH(\*SVCOUT or \*SVCBOTH) for the connection to succeed.

The line can be changed using the Change Line Description (X.25) (CHGLINX25) command.

Top

---

## Dial initiation (DIALINIT)

Specifies the method used to make the initial dial on a switched line between the system and the remote controller.

### \*LINKTYPE

The type of dial connection initiated is specified on the LINKTYPE parameter. For LAN or SDLC short-hold mode connections, the default is to dial the connection as soon as the controller description is varied on. For all other link types, the default is to delay dialing.

### \*IMMED

The dial connection is initiated as soon as the controller description is varied on.

### \*DELAY

The dial connection is delayed until a job is initiated that requests the use of the remote controller resources.

Top

---

## Connection number (C>NNBR)

Specifies the telephone number to dial to connect to this controller.

### \*DC

Direct call is being used in an X.21 circuit switched network.

\*ANY The system accepts calls from any network address.

*connection-number*

Specify the connection number.

Top

---

## Answer number (ANSNBR)

Specifies the X.25 network address from which calls are accepted.

### \*C>NNBR

Calls from the X.25 network address specified on the C>NNBR parameter are accepted.

### \*ANY

Calls are accepted from any X.25 network address.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## Outgoing connection list (CNLSTOUT)

Specifies, for ISDN switched connections, the name of a connection list object that contains the ISDN assigned numbers for a dial out operation to the ISDN.

### *list-object*

Specify the name of a connection list object.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## Connection list entry (CNLSTOUTE)

Specifies, for ISDN switched connections, the entry name from the connection list that is used to make a call to the ISDN. The connection list must have been identified on the **Outgoing connection list (CNLSTOUT)** parameter.

### *entry-name*

Specify an entry name.

Top

---

## Data link role (ROLE)

Specifies the data link role which the remote controller has on this connection. The primary station is the controlling station and the secondary station is the responding station. The primary station controls the data link by sending commands to the secondary station, and the secondary station responds to the commands.

### \*NEG

The local system and the remote system negotiate which computer is primary.

### \*PRI

The remote system is the primary station on this communications line.

### \*SEC

The remote system is a secondary station on this communications line.

Top



---

## SHM disconnect limit (SHMDSCLMT)

Specifies the number of consecutive nonproductive responses that are required from the remote station before the connection can be suspended for this X.21 short hold mode connection. This parameter is used only if \*YES is specified for the **Short hold mode (SHM)** parameter, and \*NEG or \*SEC is specified for the **Data link role (ROLE)** parameter.

### 10

10 consecutive nonproductive responses must be received before the connection can be suspended.

### \*NOMAX

There is no disconnect limit.

### *SHM-disconnect-limit*

Specify a number from 1 to 254, indicating the number of consecutive nonproductive responses that must be received before the connection can be suspended.

Top

---

## SHM disconnect timer (SHMDSCTMR)

Specifies, in tenths of a second, the minimum length of time that the primary system maintains the connection to the remote system for this X.21 short hold mode controller. This parameter is valid only if \*YES is specified for the **Short hold mode (SHM)** parameter, and \*NEG or \*SEC is specified for the **Data link role (ROLE)** parameter.

### 50

The primary maintains the connection to the remote system for a minimum of 5 seconds.

### *SHM-disconnect-timer*

Specify a value from 2 to 3000 in 0.1 second intervals.

Top

---

## Station address (STNADR)

Specifies the station address used when communicating with the controller.

Valid values range from 00 to FE.

**Note:** 00 can be specified only for APPC controllers when \*TDLC is specified for the **Link type (LINKTYPE)** parameter.

**Note:** If \*SEC is specified on the ROLE parameter, this is the station address of the remote controller. If \*PRI or \*NEG is specified on the ROLE parameter, this is the local station address.

---

## LAN remote adapter address (ADPTADR)

Specifies the 12-character adapter address of the remote controller. This is the address to which the system sends data when it communicates with the remote controller. This value can be obtained from the remote controller's configuration record. Valid values range from hex 000000000001 through hex FFFFFFFF.

*adapter-address*

Specify the adapter address of the remote controller.

Top

---

## LAN DSAP (DSAP)

Specifies the destination service access point (DSAP). This is the logical address this system will send to when it communicates with the remote controller. This address allows the controller to properly route the data that comes from this system. The default value for the destination service access point is 04.

The value must match the value specified on the source service access point (SSAP) parameter in the remote controller's configuration record.

**Note:** The \*OPC controller uses the value above for this field. The combination of RMTSYSNAME and DSAP defines a unique controller. This allows multiple controllers to exist between two systems.

04

The destination service access point is the default 04.

*destination-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the destination service access point.

Top

---

## LAN SSAP (SSAP)

Specifies the source service access point (SSAP). This is the logical address the local system uses when it sends data to the remote controller. This address allows the controller to properly route the data that comes from the local system. The default value for the source service access point is 04.

It must match the value assigned to the destination service access point (DSAP) in the remote controller's configuration record.

04

The system uses the logical address of 04.

*source-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the source service access point.

Top

---

## X.25 network level (NETLVL)

Specifies the level of the X.25 network used to access this controller. The level is specified by giving the year of the standard used by the X.25 network.

**Note:** Use of the lower value of the remote DTE or the network level is suggested; for example, if the remote DTE is using the CCITT standard of 1980 and the network 1984, specify 1980 for this parameter.

### 1980

The 1980 Standard is used.

### 1984

The 1984 Standard is used.

### 1988

The 1988 Standard is used.

Top

---

## X.25 link level protocol (LINKPCL)

Specifies the link level protocol used on the X.25 network to communicate with this controller.

### \*QLLC

The Qualified Logical Link Control (QLLC) protocol is used.

### \*ELLC

The Enhanced Logical Link Control (ELLC) protocol is used.

Top

---

## X.25 logical channel ID (LGLCHLID)

Specifies the logical channel identifier used for the X.25 permanent virtual circuit (PVC) to this controller. The valid entry is xyy. Where:

- x = the logical group number, derived from your network subscription.
- yy = the logical channel number, derived from your subscription. The logical channel identifier must be one of the PVC logical channel identifiers that was defined in the X.25 line description. There is no default for this parameter.

---

## X.25 connection password (CNNPWD)

Specifies the X.25 network password used for password exchange with the X.24 Call Request and Incoming Call packets (Call User Data field). This parameter is not valid for permanent virtual circuit (PVC) connections.

If you want to use a connection password that consists of characters whose hexadecimal value is less than 40, you must specify the password as a hexadecimal value. When less than 8 bytes are specified, the end of the password field is padded with blanks. A password of all blank is valid. All incoming call requests must match this password to establish a connection.

To specify a hexadecimal password, the digits must be specified in multiples of two, be no more than 16 digits long, be enclosed in apostrophes, and be preceded by an X. For example, X'0102030405' is a valid hexadecimal password.

**Note:** This connection password is highly recommended for controllers that operate with the Enhanced Logical Link Control (ELLC) protocol LINKPCL(\*ELLC) on switched virtual circuit (SVC) connections. This enhanced protocol supports reconnection of virtual circuits after network errors which disconnect the line with a clear signal; however, this reconnection is not allowed to proceed without the password validation procedure being used as a unique identifier for the controller.

### *X.25-connection-password*

Specify the connection password. The password for each controller can consist of any alphanumeric characters represented by the hexadecimal values ranging from 40 through FF.

Top

---

## APPN CP session support (CPSSN)

Specifies whether this controller supports sessions between control points.

### \*YES

This controller supports sessions between control points.

### \*NO

This controller does not support sessions between control points.

Top

---

## Remote APPN node type (NODETYPE)

Specifies the type of APPN node which this controller represents.

### \*ENDNODE

This node is an end node in an APPN network.

#### **\*LENNODE**

This node is a low-entry networking node in an APPN network.

#### **\*NETNODE**

This node is a network node in an APPN network.

#### **\*CALC**

The system determines the type of node this controller represents.

Top

---

### **Branch extender role (BEXROLE)**

Specifies the role of the local system in an APPN network for the remote controller being configured. This parameter is only used when the local system has enabled the branch extender function via the NODETYPE parameter in the network attributes being set to \*BEXNODE.

#### **\*NETNODE**

The local system takes the role of a network node for the remote controller.

#### **\*ENDNODE**

The local system takes the role of an end node for the remote controller.

Top

---

### **APPN/HPR capable (HPR)**

Specifies whether the local system can use APPN high-performance routing (HPR) when communicating with this controller. The controller description must specify APPN(\*YES) to enable HPR. If HPR(\*YES) is specified, the value of the MAXFRAME parameter of the line specified by the switched line list must be greater than or equal to 768, otherwise HPR will not be enabled over this connection.

#### **\*YES**

The local system can use HPR, and HPR flows can proceed over the link defined by this controller.

#### **\*NO**

The local system cannot use HPR, and HPR flows cannot proceed over the link defined by this controller.

Top

---

## HPR path switching (HPRPTHSWT)

Specifies whether an attempt is made to switch paths of HPR connections associated with this controller at the time the controller is varied off. If a path switch is not attempted or if there are no other available paths, jobs associated with the HPR connections will be ended.

See the APPN information in the Networking category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for more information.

### \*NO

When this controller is varied off path switching will not be done for HPR connections associated with this controller. Jobs associated with HPR connections will be ended.

### \*YES

When this controller is varied off an attempt to switch paths of HPR connections associated with this controller will be made.

Top

---

## APPN transmission group number (TMSGRPNBR)

Specifies the transmission group number for this controller.

### 1

The default transmission group is one.

### \*CALC

The system specifies the value for the transmission group number.

*transmission-group-number*

Specify a value from 1 to 20 for the transmission group number.

Top

---

## APPN minimum switched status (MINSWTSTS)

Specifies the minimum status of the switched connection so that APPN will consider it as a controller that is available for routing.

### \*VRYONPND

APPN will consider the controller available for routing if the status is vary on pending, varied on, or active.

### \*VRYON

APPN will consider the controller available for routing only if the status is varied on or active.

Top

---

## Autocreate device (AUTOCRTDEV)

Specifies whether device descriptions can be automatically created for this controller description.

**Note:** This parameter does not apply to the automatic creation of APPC devices. This parameter only applies to dependent devices on this controller.

### \*ALL

All dependent devices than can be automatically created for this controller, except APPC devices, are automatically created.

### \*NONE

Dependent devices on this controller are not automatically created.

Top

---

## Autodelete device (AUTODLTDEV)

Specifies the number of minutes an automatically created device can remain in an idle state (when there are no active conversations on that device). When the time expires, the system automatically varies off and deletes the device description.

### 1440

The system will automatically vary off and delete the automatically-configured idle device descriptions after 1440 minutes (24 hours).

### \*NO

The system will not automatically vary off and delete the automatically-configured idle device descriptions.

### *wait-time*

Specify the number of minutes to wait before deleting the automatically-configured idle device descriptions for this controller. Valid values range from 1 to 10,000.

Top

---

## User-defined 1 (USRDFN)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

### \*LIND

The user-defined value specified in the line description is used.

*user-defined*

Specify a value ranging from 0 through 255.

Top

---

## User-defined 2 (USRDFN)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

\*LIND

The user-defined value specified in the line description is used.

*user-defined*

Specify a value ranging from 0 through 255.

Top

---

## User-defined 3 (USRDFN)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

\*LIND

The user-defined value specified in the line description is used.

*user-defined*

Specify a value ranging from 0 through 255.

Top

---

## Model controller description (MDLCTL)

Indicates whether or not this controller is a 'Model' for automatically created controller descriptions. Values on the model description, such as timer delays, retry limits, and frame size, are used for new controller descriptions that are automatically created and configured when communications with a remote system is started. The new controller must be attached to one of the SINGLE line descriptions in the switched line list (SWTLINLST parameter) of the model controller.

A model controller description is not attached to any devices, and only one controller description can be varied on for each line description.

For more information on model controllers, see the APPN information in the Networking category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.



**Note:** This parameter is only valid if the parameter LINKTYPE is \*LAN.

**\*NO**

This controller is not a model controller.

**\*YES**

This controller is a model controller.

Top

---

## **Connection network ID (CNNNETID)**

Specifies the connection network identifier of this controller description. If a value is specified for this parameter (other than none), this controller description represents this connection to the connection network.

**\*NETATR**

The LCLNETID value specified in the system network attributes is used.

**\*NONE**

There is no connection network identifier.

*connection-network-netid*

Specify the connection network identifier that represents this controller description to the network.

Top

---

## **Connection network CP (CNNCPNAME)**

Specifies the name of the connection network control point.

A connection network is defined to allow controller descriptions to be automatically created for incoming or outgoing connections. This parameter is valid only if MDLCTL(\*YES) is specified; it is required if CNNNETID is specified.

*connection-control-point-name*

Specify the connection control point name.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

Up to 254 devices can be attached to this controller.

Top

---

## Character code (CODE)

Specifies whether the extended binary-coded decimal interchange code (\*EBCDIC) or the American National Standard Code for Information Interchange (\*ASCII) character code is used on the line.

### \*EBCDIC

The extended binary-coded decimal interchange code (EBCDIC) character code is used.

### \*ASCII

The ASCII character code is used.

Top

---

## SSCP identifier (SSCPID)

Specifies the system service control point identifier of the host system.

*system-service-control-point-identifier*

Specify the system service control point identifier as a 12-digit hexadecimal value.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## **IDLC window size (IDLCWDWSIZ)**

Specifies the window size for transmission to and reception controllers attached to the IDLC line.

### **\*LIND**

The value specified in the line description is used as the default window size.

#### *window-size*

Specify the window size. Valid values range from 1 through 31.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## **IDLC frame retry (IDLCFRMRTY)**

Specifies the maximum number of attempts to transmit a frame before reporting an error.

### **\*LIND**

The number of attempts specified in the line description is used.

#### *IDLC-frame-retry*

Specify a number of attempts. Valid values range from 0 through 100.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## **IDLC response timer (IDLCRSPTMR)**

Specifies the amount of time, in tenths of a second, to wait before retransmitting a frame if acknowledgement has not been received.

### **\*LIND**

The time specified in the line description is used.

#### *IDLC-response-timer*

Specify an amount of time. Valid values range from 10 through 100 tenths of a second. For example, 100 tenths of a second equals 10 seconds.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## **IDLC connect retry (IDLCCNNRTY)**

Specifies the number of times to attempt retransmission at connection time.

### \*LIND

The number of attempts specified in the line description is used.

### **\*NOMAX**

Indicates to continue until a successful transmission has been made.

### *connect-retry*

Specify a number of attempts. Valid values range from 1 through 100.

Top

---

## **Predial delay (PREDIALDLY)**

Specifies the time interval to wait (in 0.5 second intervals) before dialing a number.

**Note:** This parameter can be specified only if \*YES is specified on either the SWITCHED or SNBU parameter, and LINKTYPE(\*SDLC) and SHM(\*NO) are both specified.

### 6

The default value of 6 provides a 3-second delay.

### *predial-delay*

Specify a value ranging from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## **Redial delay (REDIALDLY)**

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

**Note:** This parameter can be specified only if \*YES is specified on either the SWITCHED or SNBU parameter, and LINKTYPE(\*SDLC) and SHM(\*NO) are both specified.

120 The default value of 120 provides a 60-second delay.

### *redial-delay*

Specify a value from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Dial retry (DIALRTY)

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

**Note:** This parameter can be specified only if \*YES is specified on either the SWITCHED or SNBU parameter, and LINKTYPE(\*SDLC) and SHM(\*NO) are both specified.

2 The default number of retries is 2.

### *dial-retry*

Specify a value from 0 to 254 in 0.5-second intervals, for the number of times the dialing will be tried.

Top

---

## Switched disconnect (SWTDSC)

Specifies whether the switched connection to this controller is dropped when the last device is varied off.

### \*NO

The switched connection is not dropped when the last device is varied off.

### \*YES

The switched connection is varied off when the last device is varied off.

Top

---

## Disconnect timer (DSCTMR)

Specifies options for controlling the time (in seconds) before a connection without activity is dropped, or the amount of time to delay the automatic disconnection. If the user does not want the line to drop, specify \*NO for the SWTDSC parameter.

### Element 1: Minimum Connect Timer

#### 170

A connection is dropped when it has been inactive for 170 seconds.

### *disconnect-timer*

Specify a time to wait before disconnecting. Valid values range from 0 through 65535 seconds.

### Element 2: Disconnect Delay Timer

#### 30

The disconnection is delayed for 30 seconds.

### *disconnect-delay-timer*

Specify a value to delay link take down after the last session on the controller is stopped. Valid values range from 0 through 65535 seconds.

Top

---

## SDLC poll priority (POLLPTY)

Specifies whether this controller has priority when polled. This parameter can be specified only if SHM is \*NO.

\*NO

This controller does not have polling priority.

\*YES

This controller does have polling priority.

Top

---

## SDLC poll limit (POLLMT)

Specifies, for an SDLC secondary or negotiable controller, the number of consecutive polls issued to the same controller when the poll results in receiving frames. This parameter can be specified only if SHM is \*NO.

0

The default number of polls is zero.

*poll limit*

Specify a number of polls. Valid values range from 0 through 4.

Top

---

## SDLC out limit (OUTLMT)

Specifies the number of consecutive times SDLC allows the transmission of the maximum number of frames to a station, before allowing transmission to another station.

\*POLLMT

The value is the same as the one specified for the **SDLC poll limit (POLLMT)** parameter.

*out-limit*

Specify a value ranging from 0 through 4.

Top

---

## SDLC connect poll retry (CNNPOLLRTY)

Specifies the number of times to retry connecting to a controller before reporting an error.

### \*CALC

The number of retries is 7 if the controller is switched, and \*NOMAX if the controller is nonswitched.

### \*NOMAX

The system will retry indefinitely.

### *connect-poll-retry*

Specify a value ranging from 0 to 65534 for the number of retries.

Top

---

## SDLC NDM poll timer (NDMPOLLTMR)

Specifies the minimum interval at which a secondary station should be polled if a poll from the primary to the secondary (which is in normal disconnect mode (NDM)) does not result in receiving the appropriate response.

This parameter is valid only if the link type is \*SDLC and the controller role is secondary or negotiable and \*NO is specified on the SHM parameter.

### \*CALC

The poll interval is calculated by the system.

### *NDM-poll-timer*

Specify a value ranging from 1 to 3000 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN frame retry (LANFRMRTY)

Specifies the number of times to retry a transmission when there is no acknowledgment from the remote controller in the time period specified by the LANRSPTMR parameter. This value is only used after a successful connection has been made.

### \*CALC

The system determines the timer value.

### *LAN-frame-retry*

Specify a value ranging from 0 through 254 for the number of times a frame is transmitted before an acknowledgement is received.

Top

---

## LAN connection retry (LANCNNRTY)

Specifies the number of times a transmission is attempted before an acknowledgement is received. This value is used at connection time (unlike LANFRMRTY which is used after a connection has been made).

### \*CALC

The system determines the timer value.

### *LAN-connection-retry*

Specify a value ranging from 0 through 254 for the number of times the transmission is attempted before an acknowledgement is received.

Top

---

## LAN response timer (LANRSPTMR)

Specifies the time period used to determine an inoperative condition on the link when connected.

### \*CALC

The system determines the timer value.

### *LAN-response-timer*

Specify a value from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN connection timer (LANCNNTMR)

Specifies the time period used to determine an inoperative condition on the link at connection time.

### \*CALC

The system determines the timer value.

### *LAN-connection-timer*

Specify a value ranging from 1 through 254 in 0.1-second intervals for the amount of time the system waits before an inoperative condition occurs. To indicate no timer, specify 0.

Top



---

## LAN acknowledgement timer (LANACKTMR)

Specifies the time interval to delay sending acknowledgements for received frames.

### \*CALC

The system determines the timer value.

#### *LAN-acknowledgement-timer*

Specify a value ranging from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0. If 0 is specified for the **LAN acknowledgement frequency (LANACKFRQ)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKFRQ parameter, a non-zero number must also be specified for this parameter.

Top

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## LAN inactivity timer (LANINACTMR)

Specifies the time period used to determine an inactive condition for the controller.

### \*CALC

The system determines the timer value.

#### *LAN-inactivity-timer*

Specify a value ranging from 1 through 255 in 0.1-second intervals for the length of time used to determine an inactive condition for the controller. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement frequency (LANACKFRQ)

Specifies the maximum number of frames received before sending an acknowledgement to the controller.

### \*CALC

The system determines the LAN acknowledgement frequency value.

#### *LAN-acknowledge-frequency*

Specify a value from 0 to 127 for the number of frames received. If 0 is specified for the **LAN acknowledgement timer (LANACKTMR)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKTMR parameter, a non-zero number must also be specified for this parameter.

Top

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## LAN max outstanding frames (LANMAXOUT)

Specifies the maximum number of frames that can be sent before an acknowledgement is received from the remote system.

### \*CALC

The system determines the LAN maximum outstanding frames value.

### *LAN-maximum-outstanding-frames*

Specify a value ranging from 1 through 127 for the number of frames that can be sent before an acknowledgement is received.

Top

---

## LAN access priority (LANACCPTY)

Specifies the priority used for accessing the remote controller. The larger the number the higher the priority for this controller. This parameter is only used when the controller attaches to TRLAN.

### \*CALC

The system determines the LAN access priority value.

### *LAN-access-priority*

Specify a value from 0 to 3 for the access priority for this controller on a local area network (LAN).

Top

---

## LAN window step (LANWDWSTP)

Specifies whether to reduce to 1 the maximum number of frames outstanding to the remote system during network congestion. This parameter (LAN Window Step) indicates the number of frames that must be successfully received by the remote system before the number of maximum outstanding frames can be increased by 1. The increase continues this way until the maximum number of outstanding frames reaches the value specified by the LAN maximum outstanding frames (LANMAXOUT) parameter.

### \*NONE

The number of outstanding frames is not reduced during network congestion.

### *LAN-window-step*

Specify a value from 1 to 127 for the number of frames that must be successfully received by the remote system before the maximum number of outstanding frames can be increased by 1.

Top

---

## X.25 switched line selection (SWTLINSLCT)

Specifies the method that is used to select lines from an X.25 switched line list.

### \*FIRST

Lines are selected beginning with the first line in the switched line list.

### \*CALC

The system determines which line in the switched line list will be selected.

Top

---

## X.25 default packet size (DFTPCKTSIZE)

Specifies the default packet size used by the X.25 network for transmission and reception.

### Element 1: Transmit Packet Size

#### \*LIND

The value specified in the line description is the default value.

*transmit-packet-size*

Specify a default packet size for transmission. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

### Element 2: Receive Packet Size

#### \*LIND

The value specified in the line description is the default value.

#### \*TRANSMIT

The value specified as the default packet size for transmission is used as the default for reception.

*receive-packet-size*

Specify a default packet size for reception. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

Top

---

## X.25 default window size (DFTWDWSIZE)

Specifies the default window size for transmission and reception.

### Element 1: Transmit Window Size

#### \*LIND

The value specified in the line description is used as the default window size.

#### *transmit-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15. For switched virtual circuit (SVC) incoming calls, the system accepts the window size indicated in the Incoming Call packet facilities field.

### Element 2: Receive Window Size

#### \*LIND

The value specified in the line description is used as the default window size.

#### **\*TRANSMIT**

The value specified as the default window size for transmission is used as the default for reception.

#### *receive-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

Top

---

## X.25 user group identifier (USRGRPID)

Specifies the closed user-group ID for contacting this switched virtual circuit (SVC) controller on the X.25 network.

Specify the 2-digit decimal value, from 00 through 99, as provided by the network subscription. This parameter is not valid for permanent virtual circuit (PVC) connections. It is valid only for SVC circuit outgoing call operations and is ignored for SVC incoming call connections.

Top

---

## X.25 reverse charging (RVSCRG)

Specifies whether reverse charges are accepted or requested when contacting this controller.

### \*NONE

No reverse charging for network tariff billing is accepted.

### \*REQUEST

Charges are requested on outgoing call request packets.

### \*ACCEPT

Reverse charging for network tariff billing is accepted on incoming requests.

### \*BOTH

Both incoming and outgoing requests are accepted.

Top

---

## X.25 frame retry (X25FRMRTY)

Specifies the maximum number of times a frame is sent after the response timer ends when connected to this controller. The value for this parameter depends on the quality of service provided by the network and the connection to that network; that is, the frequency of lost link protocol data units.

7

The default for the maximum number of transmissions is 7.

### *X.25 frame retry*

Specify a value ranging from 0 through 21 for the number of times a frame is sent.

Top

---

## X.25 connection retry (X25CNNRTY)

Specifies the maximum number of times that a logical link control (LLC) protocol data unit is sent after the connect response timer expires when connecting to this controller.

7

The default for the maximum number of transmissions is 7.

### *X.25 connection retry*

Specify a value ranging from 0 through 21 for the number times a frame is sent.

---

## X.25 response timer (X25RSPTMR)

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connected to this controller.

300

The time allowed to return an acknowledgment is 30 seconds.

*X.25 response-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1-second intervals.

Top

---

## X.25 connection timer (X25CNNTMR)

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connecting to this controller.

300

The default amount of time is 30 seconds.

*connection-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1 second intervals.

Top

---

## X.25 delayed connection timer (X25DLYTMR)

Specifies the time interval between attempts to establish a connection to the controller.

\*CALC

Use the values specified for the **X.25 connection timer (X25CNNTMR)** parameter and the **X.25 connection retry (X25CNNRTY)** parameter to determine how often and how many times to try establishing the connection.

*X.25-delay-timer*

Specify a value ranging from 1 to 32767 units. Each unit represents 0.1 second. Connection attempts are repeated indefinitely at this time interval.

Top

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## X.25 acknowledgement timer (X25ACKTMR)

Specifies the amount of time to delay sending acknowledgements for received frames.

20

The time allowed to delay sending an acknowledgment is 2 seconds.

*X.25-acknowledgment-timer*

Valid values range from 1 to 2550 in 0.1 second intervals, or 0 to indicate no delay.

Top

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## X.25 inactivity timer (X25INACTMR)

Specifies the time period used to determine an inactive condition for the controller. Valid values range from 1 to 2550 in 0.1 second intervals.

1440

The time period used to determine an inactive condition for the controller is 10.5 seconds.

Top

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## User facilities (USRFCL)

Specifies a string of hexadecimal characters sent to the X.25 network to request additional services. The system allows up to 218 hexadecimal characters.

Top

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## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

**Element 1: Maximum Recovery Limit**

2

Two recovery attempts are made within the interval specified.

\*SYSVAL

The value in the QCMNRCYLMT system value is used.

*count limit*

Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

## Element 2: Recovery Time Interval

5

The specified number of recovery attempts is made within a 5-minute interval.

*time-interval*

Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

More information on communication recovery is in the Communications Management book, SC41-5406.

Top

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## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

### \*SYSVAL

Messages are sent to the message queue defined in the QCFGMSGQ system value.

### \*SYSOPR

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

### Qualifier 1: Message queue

*name* Specify the name of the message queue to which operational messages are sent.

### Qualifier 2: Library

*name* Specify the name of the library where the message queue is located.

For more information about using this command, see the Communications Management book, SC41-5406.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file.



The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

**Example 1: Creating an APPC controller with link type \*SDLC**

```
CRTCTLAPPC  CTLD(OUTLAND) LINKTYPE(*SDLC)
             APPN(*NO) LINE(OUTLINE)
             RMTNETID(*NONE) STNADR(C1)
```

This command configures an APPC controller description attached to a nonswitched SDLC line with a station address of C1.

**Example 2: Creating an APPC controller with link type \*HRPIP**

```
CRTCTLAPPC  CTLD(GRIFFIN) LINKTYPE(*HRPIP)
             RMTINTNETA('9.5.5.1') RMTCPNAME(CJP)
```

This command configures an APPC controller description named GRIFFIN with a link type of \*HRPIP, a remote internet address of 9.5.5.1 and a remote control point of CJP.

Top

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## Error messages

**\*ESCAPE Messages**

**CPF26BB**

Extended wireless controller member not changed.

**CPF26BC**

Extended wireless controller member not displayed.

**CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

**CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

**CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

**CPF26B3**

Extended wireless line member not added.

**CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

[Top](#)

## Create Ctl Desc (Async) (CRTCTLASC)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (Async) (CRTCTLASC) command creates a controller description for an asynchronous controller.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
LINKTYPE	Link type	*ASYNC, *X25	Required, Positional 2
ONLINE	Online at IPL	*YES, *NO	Optional
SWITCHED	Switched connection	*NO, *YES	Optional
SNBU	Switched network backup	*NO, *YES	Optional
LINE	Attached nonswitched line	<i>Name</i>	Optional
SWTLINLST	Switched line list	Values (up to 64 repetitions): <i>Name</i>	Optional
INLCNN	Initial connection	*DIAL, *ANS	Optional
CNNNBR	Connection number	<i>Character value</i> , *ANY	Optional
ANSNBR	Answer number	*CNNNBR, *ANY	Optional
LGLCHLID	X.25 logical channel ID	<i>Character value</i>	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEV	Attached devices	<i>Name</i>	Optional
PREDIALDLY	Predial delay	0-254, <u>6</u>	Optional
REDIALDLY	Redial delay	0-254, <u>120</u>	Optional
DIALRTY	Dial retry	0-254, <u>2</u>	Optional
SWTDSC	Switched disconnect	*NO, *YES	Optional
ACKTMR	File transfer ack timer	16-65535, <u>16</u>	Optional
RETRY	File transfer retry	1-255, <u>7</u>	Optional
RMTVIFY	Remote verify	*NO, *YES	Optional
LCLLOCNAME	Local location	<i>Name</i>	Optional
LCLID	Local identifier	<i>Name</i>	Optional
PADEML	PAD Emulation	*NO, *YES	Optional
SWTLINSLCT	X.25 switched line selection	*FIRST, *CALC	Optional
DFTPFSIZE	X.25 default packet size	<i>Element list</i>	Optional
	Element 1: Transmit value	*LIND, 64, 128, 256, 512, 1024, 2048, 4096	
	Element 2: Receive value	*LIND, *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096	

Keyword	Description	Choices	Notes
DFTWDWSIZE	X.25 default window size	<i>Element list</i>	Optional
	Element 1: Transmit value	1-15, * <u>LIND</u>	
	Element 2: Receive value	1-15, * <u>LIND</u> , *TRANSMIT	
USRGRPID	X.25 user group identifier	<i>Character value</i>	Optional
RVSCRG	X.25 reverse charging	* <u>NONE</u> , *REQUEST, *ACCEPT, *BOTH	Optional
USRFCL	User facilities	<i>Character value</i>	Optional
CMNRCYLMT	Recovery limits	Single values: *SYSVAL Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <u>2</u>	
	Element 2: Time interval	0-120, <u>5</u>	
MSGQ	Message queue	Single values: * <u>SYSVAL</u> , *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
AUT	Authority	<i>Name</i> , * <u>CHANGE</u> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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## Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

---

## Link type (LINKTYPE)

Specifies the type of line to which this controller is attached.

This is a required parameter.

\*ASYNC

This controller is attached to an asynchronous line.

\*X25

This controller is attached to an X.25 line.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

\*YES

The controller is automatically varied on at IPL.

**\*NO**

The controller is not automatically varied on at IPL.

Top

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## Switched connection (SWITCHED)

Specifies whether this controller is attached to a switched line, a token-ring network, Ethernet LAN, or an X.25 switched virtual circuit (SVC). \*NO must be specified for APPC controllers attached to a TDLC line.

\*NO

This controller is attached to a nonswitched line. Specify this value for controllers attaching to an X.25 permanent virtual circuit (PVC).

**\*YES**

This controller is attached to a switched line. Specify this value for controllers attached to an X.25 switched virtual circuit (SVC). Also specify this value for controllers attached to a local area network.

**Note:** If LINKTYPE is \*LAN, the SWITCHED parameter value must be \*YES or must not be specified.

Top

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## Switched network backup (SNBU)

Specifies whether the remote system modem has the switched network backup (SNBU) feature. The backup feature is used to bypass a broken nonswitched (leased line) connection by establishing a switched connection. To activate SNBU, you must change the controller description of the modem from nonswitched to switched by specifying \*YES for the **Activate swt network backup (ACTSNBU)** parameter.

**Note:** If the modem model you are using is an IBM 386x, 586x, or 786x, you should not change the controller description. Instead, manually switch the modem to the unswitched mode, and manually dial the connection.

Both the local and remote modems must support the SNBU feature to perform a valid activation.

\*NO The remote system modem does not have the SNBU feature.

**\*YES**

The remote system modem has the SNBU feature.

Top

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## Attached nonswitched line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

**Note:** The associated line must be varied off before this command is entered. Specify this parameter for controllers attaching to an X.25 permanent virtual circuit (PVC).

Top

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## Switched line list (SWTLINLST)

Specifies the names of the switched lines to which this controller attaches. The line descriptions must already exist. Up to 64 switched line names can be specified.

*switched-line-name*

Specify the names of up to 64 lines that are connected to this controller. The same line name can be used more than once. For each line name specified, a line description by that name must already exist.

Top

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## Initial connection (INLCNN)

Specifies the method used to establish a connection with this controller.

\*DIAL

The system initiates outgoing calls and answers incoming calls.

\*ANS

The connection is made by the IBM System i5 when it answers an incoming call from this controller. If a call is received from the remote controller and all necessary conditions are met, the incoming call is answered by the system.

For X.25 connections, the line attached to the controller requires switched virtual circuits (SVCs) configured on the LGLCHLE parameter of type OUT or BOTH(\*SVCOUT or \*SVCBOTH) for the connection to succeed.

The line can be changed using the Change Line Description (X.25) (CHGLINX25) command.

Top

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## Connection number (CINNBR)

Specifies the telephone number to dial to connect to this controller.

This could be a telephone number, an X.25 network address, or an X.21 connection number depending on the type of line the controller is attached to.

\*ANY The system accepts calls from any network address.

*connection-number*

Specify the connection number.

---

## Answer number (ANSNBR)

Specifies the X.25 network address from which calls are accepted.

### \*CNNNBR

Calls from the X.25 network address specified on the CNNNBR parameter are accepted.

### \*ANY

Calls are accepted from any X.25 network address.

Top

---

## X.25 logical channel ID (LGLCHLID)

Specifies the logical channel identifier used for the X.25 permanent virtual circuit (PVC) to this controller. The valid entry is xyy. Where:

- x = the logical group number, derived from your network subscription.
- yy = the logical channel number, derived from your subscription. The logical channel identifier must be one of the PVC logical channel identifiers that was defined in the X.25 line description. There is no default for this parameter.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

Asynchronous communications supports only one device attached to each controller. The device name must be the same as that specified when the associated device description was created. The device description must already exist.

Top

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## Predial delay (PREDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before dialing a number.

**Note:** This parameter can be specified only if switched line or switched network backup is \*YES and the link type is \*ASYNC for asynchronous controllers.

6

The default value of 6 provides a 3-second delay.

### *predial-delay*

Specify a value ranging from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Redial delay (REDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

**Note:** This parameter can be specified only if switched line or switched network backup is \*YES and the link type is \*ASYNC for asynchronous controllers.

120 The default value of 120 provides a 60-second delay.

### *redial-delay*

Specify a value from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Dial retry (DIALRTY)

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

**Note:** This parameter can be specified only if switched line or switched network backup is \*YES and the link type is \*ASYNC for asynchronous controllers.

2 The default number of retries is 2.

### *dial-retry*

Specify a value from 0 to 254 in 0.5-second intervals, for the number of times the dialing will be tried.

Top



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## Switched disconnect (SWTDSC)

Specifies whether the switched connection to this controller is dropped when the last device is varied off.

\*NO

The switched connection is not dropped when the last device is varied off.

\*YES

The switched connection is varied off when the last device is varied off.

Top

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## File transfer ack timer (ACKTMR)

Specifies the time period allowed for an acknowledgement when using file transfer support.

Valid values range from 16 to 65535 in one-second intervals.

Top

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## File transfer retry (RETRY)

Specifies the number of retries when using file transfer support.

Valid values range from 1 to 255.

7

Seven is the default for number of retries.

Top

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## Remote verify (RMTVFY)

Specifies whether the remote system requires verification of local location NAME and local ID. The remote system requires verification if a generic controller and device are configured to accept calls from any X.25 network address.

\*NO

The remote system does not require verification of local location name and local ID.

\*YES

The remote system does require verification of the local location name and local ID.

Top

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## Local location (LCLLOCNAME)

Specifies the name that, when combined with the local ID, identifies your controller to a remote system. This name must be the same as the name specified by the remote system in its remote location list.

Top

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## Local identifier (LCLID)

Specifies the ID that, when combined with the local location NAME, identifies your controller to a remote system. This ID must be the same as the ID specified by the remote system in its remote location list.

*local-identifier*

Specify the local identifier.

Top

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## PAD Emulation (PADEML)

Specifies whether this controller emulates an X.25 packet assembler/disassembler (PAD). This PAD emulation follows CCITT recommendations for X.3, X.28, and X.29. This parameter is valid only if \*X25 is specified for the **Link type (LINKTYPE)** parameter, SWITCHED is \*YES, and the initial connection (INLCNN) is set to \*DIAL.

\*NO

This controller does not emulate an X.25 packet assembler/disassembler (PAD).

\*YES

This controller emulates an X.25 packet assembler/disassembler (PAD).

Top

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## X.25 switched line selection (SWTLINSLCT)

Specifies the method that is used to select lines from an X.25 switched line list.

\*FIRST

Lines are selected beginning with the first line in the switched line list.

\*CALC

The system determines which line in the switched line list will be selected.

Top

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## X.25 default packet size (DFTPKTSIZE)

Specifies the default packet size used by the X.25 network for transmission and reception.

### Element 1: Transmit Packet Size

\*LIND

The value specified in the line description is the default value.

*transmit-packet-size*

Specify a default packet size for transmission. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

### Element 2: Receive Packet Size

\*LIND

The value specified in the line description is the default value.

\*TRANSMIT

The value specified as the default packet size for transmission is used as the default for reception.

*receive-packet-size*

Specify a default packet size for reception. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

[Top](#)

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## X.25 default window size (DFTWDWSIZE)

Specifies the default window size for transmission and reception.

### Element 1: Transmit Window Size

\*LIND

The value specified in the line description is used as the default window size.

*transmit-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15. For switched virtual circuit (SVC) incoming calls, the system accepts the window size indicated in the Incoming Call packet facilities field.

### Element 2: Receive Window Size

\*LIND

The value specified in the line description is used as the default window size.

**\*TRANSMIT**

The value specified as the default window size for transmission is used as the default for reception.

*receive-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

Top

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## **X.25 user group identifier (USRGRPID)**

Specifies the closed user-group ID for contacting this switched virtual circuit (SVC) controller on the X.25 network.

Specify the 2-digit decimal value, from 00 through 99, as provided by the network subscription. This parameter is not valid for permanent virtual circuit (PVC) connections. It is valid only for SVC circuit outgoing call operations and is ignored for SVC incoming call connections.

Top

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## **X.25 reverse charging (RVSCRG)**

Specifies whether reverse charges are accepted or requested when contacting this controller.

**\*NONE**

No reverse charging for network tariff billing is accepted.

**\*REQUEST**

Charges are requested on outgoing call request packets.

**\*ACCEPT**

Reverse charging for network tariff billing is accepted on incoming requests.

**\*BOTH**

Both incoming and outgoing requests are accepted.

Top

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## User facilities (USRFCL)

Specifies a string of hexadecimal characters sent to the X.25 network to request additional services. The system allows up to 218 hexadecimal characters.

**Note:** Values entered in this field are determined by the supplier of the network subscription. Do not include coding of facilities shown through keywords: packet size, window size, user group identifier, and reverse charging.

Top

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## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

### Element 1: Maximum Recovery Limit

2

Two recovery attempts are made within the interval specified.

#### \*SYSVAL

The value in the QCMNRCYLMT system value is used.

#### *count limit*

Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

### Element 2: Recovery Time Interval

5

The specified number of recovery attempts is made within a 5-minute interval.

#### *time-interval*

Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

More information on communication recovery is in the Communications Management book, SC41-5406.

Top

---

## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

#### \*SYSVAL

Messages are sent to the message queue defined in the QCFGMSGQ system value.

## \*SYSOPR

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

### Qualifier 1: Message queue

*name* Specify the name of the message queue to which operational messages are sent.

### Qualifier 2: Library

*name* Specify the name of the library where the message queue is located.

For more information about using this command, see the Communications Management book, SC41-5406.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTCTLASC  CTLD(ASCCTL)  LINKTYPE(*ASYNC)  LINE(ASCLIN)
```

This command creates an asynchronous controller attached to a nonswitched asynchronous line.

---

## Error messages

### \*ESCAPE Messages

**CPF26BB**

Extended wireless controller member not changed.

**CPF26BC**

Extended wireless controller member not displayed.

**CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

**CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

**CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

**CPF26B3**

Extended wireless line member not added.

**CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.





## Create Ctl Desc (BSC) (CRTCTLBSC)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (BSC) (CRTCTLBSC) command creates a controller description for a binary synchronous communications (BSC) controller.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
ONLINE	Online at IPL	*YES, *NO	Optional
CNN	Connection type	*NONSWTPP, *SWTPP, *MPTRIB	Optional
SNBU	Switched network backup	*NO, *YES	Optional
LINE	Attached nonswitched line	<i>Name</i>	Optional
SWTLINLST	Switched line list	Values (up to 64 repetitions): <i>Name</i>	Optional
APPTYPE	Application type	*PGM, *RJE, *EML	Optional
INLCNN	Initial connection	*DIAL, *ANS	Optional
CNNBR	Connection number	<i>Character value</i>	Optional
LCLID	Local identifier	<i>Character value</i> , *NOID	Optional
RMTID	Remote identifiers	Values (up to 64 repetitions): <i>Character value</i> , *ANY, *NOID	Optional
RJEHOST	RJE host type	*RES, *JES2, *JES3, *RSCS	Optional
RJELOGON	RJE host signon/logon	<i>Character value</i>	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEV	Attached devices	Values (up to 32 repetitions): <i>Name</i>	Optional
PREDIALDLY	Predial delay	0-254, <u>6</u>	Optional
REDIALDLY	Redial delay	0-254, <u>120</u>	Optional
DIALRTY	Dial retry	0-254, <u>2</u>	Optional
CMNRCYLMT	Recovery limits	Single values: *SYSVAL Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <u>2</u>	
	Element 2: Time interval	0-120, <u>5</u>	
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

## Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

The controller is automatically varied on at IPL.

### \*NO

The controller is not automatically varied on at IPL.

Top

---

## Connection type (CNN)

Specifies the type of connection on which this BSC controller is used.

**Note:** This value must match the value specified for the CNN parameter in the CRTLINBSC command.

### \*NONSWTPP

Nonswitched point-to-point connection.

### \*SWTPP

Switched point-to-point connection.

### \*MPTRIB

Multipoint tributary connection.

Top

---

## Switched network backup (SNBU)

Specifies whether the remote system modem has the switched network backup (SNBU) feature. The backup feature is used to bypass a broken nonswitched (leased line) connection by establishing a switched connection. To activate SNBU, you must change the controller description of the modem from nonswitched to switched by specifying \*YES for the **Activate swt network backup (ACTSNBU)** parameter.

**Note:** If the modem model you are using is an IBM 386x, 586x, or 786x, you should not change the controller description. Instead, manually switch the modem to the unswitched mode, and manually dial the connection.

Both the local and remote modems must support the SNBU feature to perform a valid activation.

**\*NO** The remote system modem does not have the SNBU feature.

**\*YES**

The remote system modem has the SNBU feature.

Top

---

## Attached nonswitched line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

**Note:** The associated line must be varied off before this command is entered. Specify this parameter for controllers attaching to an X.25 permanent virtual circuit (PVC).

Top

---

## Switched line list (SWTLINLST)

Specifies the names of the switched lines to which this controller attaches. The line descriptions must already exist. Up to 64 switched line names can be specified.

*switched-line-name*

Specify the names of up to 64 lines that are connected to this controller. The same line name can be used more than once. For each line name specified, a line description by that name must already exist.

Top

---

## Application type (APPTYPE)

Specifies the application type used by this device.

**Note:** This value must match the value specified on the APPTYPE parameter in the CRTLINBSC command.

**\*PGM**

The application is a user-written program.

**\*RJE**

The application is BSC Remote Job Entry (RJE).

**\*EML**

The application is BSC 3270 Device Emulation.

Top

---

## Initial connection (INLCNN)

Specifies the method used to establish a connection with this controller.

### \*DIAL

The system initiates outgoing calls and answers incoming calls.

### \*ANS

The connection is made by the IBM System i5 when it answers an incoming call from this controller. If a call is received from the remote controller and all necessary conditions are met, the incoming call is answered by the system.

For X.25 connections, the line attached to the controller requires switched virtual circuits (SVCs) configured on the LGLCHLE parameter of type OUT or BOTH(\*SVCOUT or \*SVCBOTH) for the connection to succeed.

The line can be changed using the Change Line Description (X.25) (CHGLINX25) command.

Top

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## Connection number (CNNNBR)

Specifies the telephone number to dial to connect to this controller.

*connection-number*

Specify the connection number.

Top

---

## Local identifier (LCLID)

Specifies the local ID used to identify the local system to the remote controller.

### \*NOID

The local system sends a null identifier when communicating with the controller.

*local-id*

Specify a local ID that is from 2 to 30 hexadecimal characters long and contains an even number of characters. The identifier cannot contain any BSC control characters.

The following guidelines are recommended to help ensure that the telephone connection is made to the correct BSC controller:

- The local ID should be a minimum of 4 characters.
- If the ID is only 4 characters, the first 2 and last 2 should be the same (example: F3F3 or 8484).

Top

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## Remote identifiers (RMTID)

Specifies the identifiers for remote BSC controllers. A maximum of 64 remote controller IDs can be specified.

### \*ANY

The system accepts any identifier sent by the remote controller.

**Note:** This value is valid only when it is the last or the only value specified.

### \*NOID

The local system accepts a null identifier sent by the remote system.

### *remote-ID*

Specify a remote controller ID that is from 2 to 30 hexadecimal characters long and contains an even number of characters. The identifier cannot contain any BSC control characters.

The following guidelines are recommended to help ensure that the phone connection is made to the correct BSC controller:

- The remote ID should be a minimum of 4 characters.
- If the ID is only 4 characters, the first 2 and last 2 should be the same (example: F1F1 or 8585).

Top

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## RJE host type (RJEHOST)

Specifies the subsystem type of the host to which RJE is connected.

### \*RES

The host is RES (Remote Entry System).

### \*JES2

The host is JES2 (Job Entry Subsystem 2).

### \*JES3

The host is JES3 (Job Entry Subsystem 3).

### \*RSCS

The host is RSCS (Remote Spooling Communications System).

Top

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## RJE host signon/logon (RJELOGON)

Specify up to 80 characters of text, enclosed in apostrophes, used as sign-on text for the RJE host system. This parameter is required only when APPTYPE(\*RJE) is specified. Specify the sign-on information required by the host system.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

The maximum number of devices that can attach to this controller is 32 if CNN is \*MPTRIB, 24 if APPTYPE is \*RJE, or 1 for all other cases.

Top

---

## Predial delay (PREDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before dialing a number.

6

The default value of 6 provides a 3-second delay.

*predial-delay*

Specify a value ranging from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Redial delay (REDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

120 The default value of 120 provides a 60-second delay.

### *redial-delay*

Specify a value from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Dial retry (DIALRTY)

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

2 The default number of retries is 2.

### *dial-retry*

Specify a value from 0 to 254 in 0.5-second intervals, for the number of times the dialing will be tried.

Top

---

## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

### Element 1: Maximum Recovery Limit

2

Two recovery attempts are made within the interval specified.

#### \*SYSVAL

The value in the QCMNRCYLMT system value is used.

### *count limit*

Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

### Element 2: Recovery Time Interval

5

The specified number of recovery attempts is made within a 5-minute interval.

### *time-interval*

Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

More information on communication recovery is in the Communications Management book, SC41-5406.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCTLBSC  CTLD(BSC1)  CNN(*SWTPP)
           CNNBR(1234567)  LCLID(020202)
           RMTID(*ANY)  SWTLINLST(BSC1)  INLCNN(*ANS)
```

This command creates a BSC controller on a switched line that accepts calls from any remote location.

Top



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## Error messages

### \*ESCAPE Messages

**CPF26BB**

Extended wireless controller member not changed.

**CPF26BC**

Extended wireless controller member not displayed.

**CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

**CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

**CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

**CPF26B3**

Extended wireless line member not added.

**CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

Top



## Create Ctl Desc (Finance) (CRTCTLFNC)

Where allowed to run: All environments (\*ALL)  
 Threadsaf: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (Finance) (CRTCTLFNC) command creates a controller description for a finance controller. For more information about using this command, see the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
TYPE	Controller type	*FBSS, 3694, 4701, 4702, 4730, 4731, 4732, 4736	Required, Positional 2
MODEL	Controller model	0	Required, Positional 3
LINKTYPE	Link type	*LAN, *SDLC, *X25	Required, Positional 4
ONLINE	Online at IPL	*YES, *NO	Optional
SWITCHED	Switched connection	*NO, *YES	Optional
SHM	Short hold mode	*NO, *YES	Optional
SNBU	Switched network backup	*NO, *YES	Optional
LINE	Attached nonswitched line	<i>Name</i>	Optional
SWTLINLST	Switched line list	Values (up to 64 repetitions): <i>Name</i>	Optional
MAXFRAME	Maximum frame size	265-1033, 256, 265, 512, 521, 1033, *LINKTYPE	Optional
EXCHID	Exchange identifier	00000000-FFFFFFFF	Optional
INLCNN	Initial connection	*DIAL, *ANS	Optional
CNNNBR	Connection number	<i>Character value</i> , *DC, *ANY	Optional
ANSNBR	Answer number	*CNNNBR, *ANY	Optional
SHMDSCLMT	SHM disconnect limit	1-254, <u>10</u> , *NOMAX	Optional
SHMDSCTMR	SHM disconnect timer	2-3000, <u>50</u>	Optional
STNADR	Station address	01-FE	Optional
ADPTADR	LAN remote adapter address	000000000001-FFFFFFFFFFFF	Optional
NETLVL	X.25 network level	1980, 1984, 1988	Optional
LINKPCL	X.25 link level protocol	*QLLC, *ELLC	Optional
LGLCHLID	X.25 logical channel ID	<i>Character value</i>	Optional
CNNPWD	X.25 connection password	<i>Character value</i> , *X''	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEV	Attached devices	Values (up to 255 repetitions): <i>Name</i>	Optional
CODE	Character code	*EBCDIC, *ASCII	Optional

Keyword	Description	Choices	Notes
SSCPID	SSCP identifier	000000000001-FFFFFFFFFFFF, <u>050000000000</u>	Optional
PREDIALDLY	Predial delay	0-254, <u>6</u>	Optional
REDIALDLY	Redial delay	0-254, <u>120</u>	Optional
DIALRTY	Dial retry	0-254, <u>2</u>	Optional
SWTDSC	Switched disconnect	<u>*YES</u> , *NO	Optional
POLLPTY	SDLC poll priority	<u>*NO</u> , *YES	Optional
POLLMT	SDLC poll limit	0-4, <u>0</u>	Optional
OUTLMT	SDLC out limit	<u>*POLLMT</u> , 0, 1, 2, 3, 4	Optional
CNNPOLLRTY	SDLC connect poll retry	0-65534, <u>*CALC</u> , *NOMAX	Optional
NDMPOLLTMR	SDLC NDM poll timer	0-3000, <u>*CALC</u>	Optional
DSAP	LAN DSAP	<u>04</u> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
SSAP	LAN SSAP	<u>04</u> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
LANFRMRTY	LAN frame retry	0-254, <u>*CALC</u>	Optional
LANCNNRTY	LAN connection retry	0-254, <u>*CALC</u>	Optional
LANRSPTMR	LAN response timer	0-254, <u>*CALC</u>	Optional
LANCNTMR	LAN connection timer	0-254, <u>*CALC</u>	Optional
LANACKTMR	LAN acknowledgement timer	0-254, <u>*CALC</u>	Optional
LANINACTMR	LAN inactivity timer	0-255, <u>*CALC</u>	Optional
LANACKFRQ	LAN acknowledgement frequency	0-127, <u>*CALC</u>	Optional
LANMAXOUT	LAN max outstanding frames	1-127, <u>*CALC</u>	Optional
LANACPTY	LAN access priority	0-3, <u>*CALC</u>	Optional
LANWDWSTP	LAN window step	1-127, <u>*NONE</u>	Optional
SWTLINSLCT	X.25 switched line selection	<u>*FIRST</u> , *CALC	Optional
DFTPKTSIZE	X.25 default packet size	<i>Element list</i>	Optional
	Element 1: Transmit value	<u>*LIND</u> , 64, 128, 256, 512, 1024, 2048, 4096	
	Element 2: Receive value	<u>*LIND</u> , *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096	
DFTWDWSIZE	X.25 default window size	<i>Element list</i>	Optional
	Element 1: Transmit value	1-15, <u>*LIND</u>	
	Element 2: Receive value	1-15, <u>*LIND</u> , *TRANSMIT	
USRGRPID	X.25 user group identifier	<i>Character value</i>	Optional
RVSCRG	X.25 reverse charging	<u>*NONE</u> , *REQUEST, *ACCEPT, *BOTH	Optional
X25FRMRTY	X.25 frame retry	0-21, <u>7</u>	Optional
X25CNNRTY	X.25 connection retry	0-21, <u>7</u>	Optional
X25RSPTMR	X.25 response timer	1-2550, <u>100</u>	Optional
X25CNTMR	X.25 connection timer	1-2550, <u>100</u>	Optional
X25DLYTMR	X.25 delayed connection timer	1-32767, <u>*CALC</u>	Optional
X25ACKTMR	X.25 acknowledgement timer	0-2550, <u>20</u>	Optional
X25INACTMR	X.25 inactivity timer	1-2550, <u>350</u>	Optional
USRFCL	User facilities	<i>Character value</i>	Optional

Keyword	Description	Choices	Notes
CMNRCYLMT	Recovery limits	Single values: *SYSVAL Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <u>2</u>	
	Element 2: Time interval	0-120, <u>5</u>	
AUT	Authority	<i>Name</i> , * <b>CHANGE</b> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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## Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

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## Controller type (TYPE)

This is a required parameter.

Specifies the type of controller for this description.

\*FBSS

This description represents a Financial Branch System Services (FBSS) controller.

**3694**

This description represents a 3694 check processor.

**4701**

This description represents a 4701 finance controller.

**4702**

This description represents a 4702 finance controller.

**4730**

This description represents a 4730 personal banking machine.

**4731**

This description represents a 4731 personal banking machine.

**4732**

This description represents a 4732 personal banking machine.

4736

This description represents a 4736 self-service transaction machine.

Top

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## Controller model (MODEL)

This is a required parameter.

Specifies the model number of the controller that is described. This number tells the system which features the controller has.

Top

---

## Link type (LINKTYPE)

Specifies the type of line to which this controller is attached.

This is a required parameter.

**\*LAN**

This controller is attached to a Local Area Network (LAN).

**\*SDLC**

This controller is attached to a synchronous data link control (SDLC) line.

**\*X25**

This controller is attached to an X.25 line.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*YES**

The controller is automatically varied on at IPL.

**\*NO**

The controller is not automatically varied on at IPL.

Top

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## Switched connection (SWITCHED)

Specifies whether this controller is attached to a switched line, a token-ring network, Ethernet LAN, or an X.25 switched virtual circuit (SVC). \*NO must be specified for APPC controllers attached to a TDLC line.

### \*NO

This controller is attached to a nonswitched line. Specify this value for controllers attaching to an X.25 permanent virtual circuit (PVC).

### \*YES

This controller is attached to a switched line. Specify this value for controllers attached to an X.25 switched virtual circuit (SVC). Also specify this value for controllers attached to a local area network.

**Note:** If LINKTYPE is \*LAN, the SWITCHED parameter value must be \*YES or must not be specified.

Top

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## Short hold mode (SHM)

Specifies whether this controller is to be used for X.21 short hold mode. To specify \*YES, you must also specify \*SDLC for the **Link type (LINKTYPE)** parameter, and \*YES for the **Switched connection (SWITCHED)** parameter.

### \*NO

This controller is not used for X.21 short hold mode.

### \*YES

This controller is used for X.21 short hold mode.

Top

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## Switched network backup (SNBU)

Specifies whether the remote system modem has the switched network backup (SNBU) feature. The backup feature is used to bypass a broken nonswitched (leased line) connection by establishing a switched connection. To activate SNBU, you must change the controller description of the modem from nonswitched to switched by specifying \*YES for the **Activate swt network backup (ACTSNBU)** parameter.

**Note:** If the modem model you are using is an IBM 386x, 586x, or 786x, you should not change the controller description. Instead, manually switch the modem to the unswitched mode, and manually dial the connection.

Both the local and remote modems must support the SNBU feature to perform a valid activation.

\*NO The remote system modem does not have the SNBU feature.

### \*YES

The remote system modem has the SNBU feature.

Top

---

## Attached nonswitched line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

**Note:** The associated line must be varied off before this command is entered. Specify this parameter for controllers attaching to an X.25 permanent virtual circuit (PVC).

Top

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## Switched line list (SWTLINLST)

Specifies the names of the switched lines to which this controller attaches. The line descriptions must already exist. Up to 64 switched line names can be specified.

*switched-line-name*

Specify the names of up to 64 lines that are connected to this controller. The same line name can be used more than once. For each line name specified, a line description by that name must already exist.

Top

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## Maximum frame size (MAXFRAME)

Specifies the maximum frame (path information unit (PIU)) size the controller can send or receive. This value is used to calculate the request unit (RU) sizes. Since the maximum PIU size that the controller can send or receive is negotiated at exchange identifier time, the maximum PIU size used at run time may be different. This value matches the corresponding value on the host system.

### \*LINKTYPE

The following values are used for the various link types:

- \*LAN - 521
- \*SDLC - 265
- \*X25 - 256

256

The frame size for \*X25.

265

The frame size for \*SDLC, \*LAN, or \*X25.

512



The frame size for \*X25.

521

The frame size for \*SDLC, \*LAN, or \*X25.

1033

The frame size for \*SDLC.

*frame-size*

Specify the frame size. For \*LAN, specify a value from 265 to 521. For \*SDLC, specify 265, 521, or 1033. For \*X25, specify 256, 265, 512, or 521.

**Note:** For a 4730, 4731, 4732, 4736, or 3694 controller, \*LINKTYPE or 265 may be specified.

Top

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## Exchange identifier (EXCHID)

Specifies the exchange identifier of this controller. The controller sends (exchanges) its identifier to another location when a connection is established. The 8-digit hexadecimal identifier contains 3 digits for the block number and 5 digits for the identifier of the specific controller.

Controller	Block Number	Hexadecimal Identifier
3694	02F	xxxxx
4701	057	xxxxx
4702	057	xxxxx
4730	043	xxxxx
4731	043	xxxxx
4732	043	xxxxx
4736	043	xxxxx
*FBSS	000-FFF	xxxxx
3601 (configured as a 4701)	016	xxxxx

Top

---

## Initial connection (INLCNN)

Specifies the method used to establish a connection with this controller.

\*DIAL

The system initiates outgoing calls and answers incoming calls.

\*ANS

The connection is made by the IBM System i5 when it answers an incoming call from this controller. If a call is received from the remote controller and all necessary conditions are met, the incoming call is answered by the system.

For X.25 connections, the line attached to the controller requires switched virtual circuits (SVCs) configured on the LGLCHLE parameter of type OUT or BOTH(\*SVCOUT or \*SVCBOTH) for the connection to succeed.

The line can be changed using the Change Line Description (X.25) (CHGLINX25) command.

Top

---

## Connection number (CNNNBR)

Specifies the telephone number to dial to connect to this controller.

\*DC

Direct call is being used in an X.21 circuit switched network.

\*ANY The system accepts calls from any network address.

*connection-number*

Specify the connection number.

Top

---

## Answer number (ANSNBR)

Specifies the X.25 network address from which calls are accepted.

\*CNNNBR

Calls from the X.25 network address specified on the CNNNBR parameter are accepted.

\*ANY

Calls are accepted from any X.25 network address.

Top

---

## SHM disconnect limit (SHMDSCLMT)

Specifies the number of consecutive nonproductive responses that are required from the remote station before the connection can be suspended for this X.21 short hold mode connection. This parameter is used only if \*YES is specified for the **Short hold mode (SHM)** parameter, and \*NEG or \*SEC is specified for the **Data link role (ROLE)** parameter.

10

10 consecutive nonproductive responses must be received before the connection can be suspended.

**\*NOMAX**

There is no disconnect limit.

*SHM-disconnect-limit*

Specify a number from 1 to 254, indicating the number of consecutive nonproductive responses that must be received before the connection can be suspended.

Top

---

## SHM disconnect timer (SHMDSCTMR)

Specifies, in tenths of a second, the minimum length of time that the primary system maintains the connection to the remote system for this X.21 short hold mode controller. This parameter is valid only if \*YES is specified for the **Short hold mode (SHM)** parameter, and \*NEG or \*SEC is specified for the **Data link role (ROLE)** parameter.

50

The primary maintains the connection to the remote system for a minimum of 5 seconds.

*SHM-disconnect-timer*

Specify a value from 2 to 3000 in 0.1 second intervals.

Top

---

## Station address (STNADR)

Specifies the station address used when communicating with the controller.

Valid values range from 00 to FE.

**Note:** 00 can be specified only for APPC controllers when \*TDLC is specified for the **Link type (LINKTYPE)** parameter.

**Note:** If \*SEC is specified on the ROLE parameter, this is the station address of the remote controller. If \*PRI or \*NEG is specified on the ROLE parameter, this is the local station address.

Top

---

## LAN remote adapter address (ADPTADR)

Specifies the 12-character adapter address of the remote controller. This is the address to which the system sends data when it communicates with the remote controller. This value can be obtained from the remote controller's configuration record. Valid values range from hex 000000000001 through hex FFFFFFFF.

*adapter-address*

Specify the adapter address of the remote controller.

Top

---

## X.25 network level (NETLVL)

Specifies the level of the X.25 network used to access this controller. The level is specified by giving the year of the standard used by the X.25 network.

**Note:** Use of the lower value of the remote DTE or the network level is suggested; for example, if the remote DTE is using the CCITT standard of 1980 and the network 1984, specify 1980 for this parameter.

### 1980

The 1980 Standard is used.

### 1984

The 1984 Standard is used.

### 1988

The 1988 Standard is used.

Top

---

## X.25 link level protocol (LINKPCL)

Specifies the link level protocol used on the X.25 network to communicate with this controller.

### \*QLLC

The Qualified Logical Link Control (QLLC) protocol is used.

### \*ELLC

The Enhanced Logical Link Control (ELLC) protocol is used.

Top

---

## X.25 logical channel ID (LGLCHLID)

Specifies the logical channel identifier used for the X.25 permanent virtual circuit (PVC) to this controller. The valid entry is *xyy*. Where:

- *x* = the logical group number, derived from your network subscription.
- *yy* = the logical channel number, derived from your subscription. The logical channel identifier must be one of the PVC logical channel identifiers that was defined in the X.25 line description. There is no default for this parameter.

Top

---

## X.25 connection password (CNNPWD)

Specifies the X.25 network password used for password exchange with the X.24 Call Request and Incoming Call packets (Call User Data field). This parameter is not valid for permanent virtual circuit (PVC) connections.

If you want to use a connection password that consists of characters whose hexadecimal value is less than 40, you must specify the password as a hexadecimal value. When less than 8 bytes are specified, the end of the password field is padded with blanks. A password of all blank is valid. All incoming call requests must match this password to establish a connection.

To specify a hexadecimal password, the digits must be specified in multiples of two, be no more than 16 digits long, be enclosed in apostrophes, and be preceded by an X. For example, X'0102030405' is a valid hexadecimal password.

**Note:** This connection password is highly recommended for controllers that operate with the Enhanced Logical Link Control (ELLC) protocol LINKPCL(\*ELLC) on switched virtual circuit (SVC) connections. This enhanced protocol supports reconnection of virtual circuits after network errors which disconnect the line with a clear signal; however, this reconnection is not allowed to proceed without the password validation procedure being used as a unique identifier for the controller.

### *X.25-connection-password*

Specify the connection password. The password for each controller can consist of any alphanumeric characters represented by the hexadecimal values ranging from 40 through FF.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

The maximum number of devices that can attach to this controller is 255 for a 4701 or a 4702 controller; 3 for a 4730, and 2 for a 4731, 4732, or 4736 controller; 255 for a \*FBSS controller; or 4 for a 3694 check processor.

---

## Character code (CODE)

Specifies whether the extended binary-coded decimal interchange code (\*EBCDIC) or the American National Standard Code for Information Interchange (\*ASCII) character code is used on the line.

### \*EBCDIC

The extended binary-coded decimal interchange code (EBCDIC) character code is used.

### \*ASCII

The ASCII character code is used.

---

## SSCP identifier (SSCPID)

Specifies the system service control point identifier of the host system.

### 050000000000

The default value for the system service control point identifier.

*system-service-control-point-identifier*

Specify the system service control point identifier as a 12-digit hexadecimal value.

---

## Predial delay (PREDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before dialing a number.

### 6

The default value of 6 provides a 3-second delay.

*predial-delay*

Specify a value ranging from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

---

## Redial delay (REDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

120 The default value of 120 provides a 60-second delay.

### *redial-delay*

Specify a value from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Dial retry (DIALRTY)

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

2 The default number of retries is 2.

### *dial-retry*

Specify a value from 0 to 254 in 0.5-second intervals, for the number of times the dialing will be tried.

Top

---

## Switched disconnect (SWTDSC)

Specifies whether the switched connection to this controller is dropped when the last device is varied off.

### \*YES

The switched connection is varied off when the last device is varied off.

### \*NO

The switched connection is not dropped when the last device is varied off.

Top

---

## SDLC poll priority (POLLPTY)

Specifies whether this controller has priority when polled. This parameter can be specified only if SHM is \*NO.

### \*NO

This controller does not have polling priority.

### \*YES

This controller does have polling priority.

Top

---

## SDLC poll limit (POLLLMT)

Specifies, for an SDLC secondary or negotiable controller, the number of consecutive polls issued to the same controller when the poll results in receiving frames. This parameter can be specified only if SHM is \*NO.

0

The default number of polls is zero.

*poll limit*

Specify a number of polls. Valid values range from 0 through 4.

Top

---

## SDLC out limit (OUTLMT)

Specifies the number of consecutive times SDLC allows the transmission of the maximum number of frames to a station, before allowing transmission to another station.

\*POLLLMT

The value is the same as the one specified for the **SDLC poll limit (POLLLMT)** parameter.

*out-limit*

Specify a value ranging from 0 through 4.

Top

---

## SDLC connect poll retry (CNNPOLLRTY)

Specifies the number of times to retry connecting to a controller before reporting an error.

\*CALC

The number of retries is 7 if the controller is switched, and \*NOMAX if the controller is nonswitched.

\*NOMAX

The system will retry indefinitely.

*connect-poll-retry*

Specify a value ranging from 0 to 65534 for the number of retries.

Top



---

## SDLC NDM poll timer (NDMPOLLTMR)

Specifies the minimum interval at which a secondary station should be polled if a poll from the primary to the secondary (which is in normal disconnect mode (NDM)) does not result in receiving the appropriate response.

This parameter is valid only if the link type is \*SDLC and the controller role is secondary or negotiable and \*NO is specified on the SHM parameter.

### \*CALC

The poll interval is calculated by the system.

### *NDM-poll-timer*

Specify a value ranging from 1 to 3000 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN DSAP (DSAP)

Specifies the destination service access point (DSAP). This is the logical address this system will send to when it communicates with the remote controller. This address allows the controller to properly route the data that comes from this system. The default value for the destination service access point is 04.

The value must match the value specified on the source service access point (SSAP) parameter in the remote controller's configuration record.

**Note:** The \*OPC controller uses the value above for this field. The combination of RMTSYSNAME and DSAP defines a unique controller. This allows multiple controllers to exist between two systems.

### 04

The destination service access point is the default 04.

### *destination-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the destination service access point.

Top

---

## LAN SSAP (SSAP)

Specifies the source service access point (SSAP). This is the logical address the local system uses when it sends data to the remote controller. This address allows the controller to properly route the data that comes from the local system. The default value for the source service access point is 04.

It must match the value assigned to the destination service access point (DSAP) in the remote controller's configuration record.

### 04

The system uses the logical address of 04.

*source-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the source service access point.

Top

---

## LAN frame retry (LANFRMRTY)

Specifies the number of times to retry a transmission when there is no acknowledgment from the remote controller in the time period specified by the LANRSPTMR parameter. This value is only used after a successful connection has been made.

\*CALC

The system determines the timer value.

*LAN-frame-retry*

Specify a value ranging from 0 through 254 for the number of times a frame is transmitted before an acknowledgement is received.

Top

---

## LAN connection retry (LANCNNRTY)

Specifies the number of times a transmission is attempted before an acknowledgement is received. This value is used at connection time (unlike LANFRMRTY which is used after a connection has been made).

\*CALC

The system determines the timer value.

*LAN-connection-retry*

Specify a value ranging from 0 through 254 for the number of times the transmission is attempted before an acknowledgement is received.

Top

---

## LAN response timer (LANRSPTMR)

Specifies the time period used to determine an inoperative condition on the link when connected.

\*CALC

The system determines the timer value.

### *LAN-response-timer*

Specify a value from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## **LAN connection timer (LANCNNTMR)**

Specifies the time period used to determine an inoperative condition on the link at connection time.

### \*CALC

The system determines the timer value.

### *LAN-connection-timer*

Specify a value ranging from 1 through 254 in 0.1-second intervals for the amount of time the system waits before an inoperative condition occurs. To indicate no timer, specify 0.

Top

---

## **LAN acknowledgement timer (LANACKTMR)**

Specifies the time interval to delay sending acknowledgements for received frames.

### \*CALC

The system determines the timer value.

### *LAN-acknowledgement-timer*

Specify a value ranging from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0. If 0 is specified for the **LAN acknowledgement frequency (LANACKFRQ)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKFRQ parameter, a non-zero number must also be specified for this parameter.

Top

---

## **LAN inactivity timer (LANINACTMR)**

Specifies the time period used to determine an inactive condition for the controller.

### \*CALC

The system determines the timer value.

### *LAN-inactivity-timer*

Specify a value ranging from 1 through 255 in 0.1-second intervals for the length of time used to determine an inactive condition for the controller. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement frequency (LANACKFRQ)

Specifies the maximum number of frames received before sending an acknowledgement to the controller.

### \*CALC

The system determines the LAN acknowledgement frequency value.

### *LAN-acknowledge-frequency*

Specify a value from 0 to 127 for the number of frames received. If 0 is specified for the **LAN acknowledgement timer (LANACKTMR)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKTMR parameter, a non-zero number must also be specified for this parameter.

Top

---

## LAN max outstanding frames (LANMAXOUT)

Specifies the maximum number of frames that can be sent before an acknowledgement is received from the remote system.

### \*CALC

The system determines the LAN maximum outstanding frames value.

### *LAN-maximum-outstanding-frames*

Specify a value ranging from 1 through 127 for the number of frames that can be sent before an acknowledgement is received.

Top

---

## LAN access priority (LANACCPTY)

Specifies the priority used for accessing the remote controller. The larger the number the higher the priority for this controller. This parameter is only used when the controller attaches to TRLAN.

### \*CALC

The system determines the LAN access priority value.

### *LAN-access-priority*

Specify a value from 0 to 3 for the access priority for this controller on a local area network (LAN).

---

## LAN window step (LANWDWSTP)

Specifies whether to reduce to 1 the maximum number of frames outstanding to the remote system during network congestion. This parameter (LAN Window Step) indicates the number of frames that must be successfully received by the remote system before the number of maximum outstanding frames can be increased by 1. The increase continues this way until the maximum number of outstanding frames reaches the value specified by the LAN maximum outstanding frames (LANMAXOUT) parameter.

### \*NONE

The number of outstanding frames is not reduced during network congestion.

### *LAN-window-step*

Specify a value from 1 to 127 for the number of frames that must be successfully received by the remote system before the maximum number of outstanding frames can be increased by 1.

Top

---

## X.25 switched line selection (SWTLINSLCT)

Specifies the method that is used to select lines from an X.25 switched line list.

### \*FIRST

Lines are selected beginning with the first line in the switched line list.

### \*CALC

The system determines which line in the switched line list will be selected.

Top

---

## X.25 default packet size (DFTPCKTSIZE)

Specifies the default packet size used by the X.25 network for transmission and reception.

### Element 1: Transmit Packet Size

#### \*LIND

The value specified in the line description is the default value.

#### *transmit-packet-size*

Specify a default packet size for transmission. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

### Element 2: Receive Packet Size

## \*LIND

The value specified in the line description is the default value.

## \*TRANSMIT

The value specified as the default packet size for transmission is used as the default for reception.

### *receive-packet-size*

Specify a default packet size for reception. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

Top

---

## **X.25 default window size (DFTWDWSIZE)**

Specifies the default window size for transmission and reception.

### **Element 1: Transmit Window Size**

#### \*LIND

The value specified in the line description is used as the default window size.

### *transmit-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15. For switched virtual circuit (SVC) incoming calls, the system accepts the window size indicated in the Incoming Call packet facilities field.

### **Element 2: Receive Window Size**

#### \*LIND

The value specified in the line description is used as the default window size.

## \*TRANSMIT

The value specified as the default window size for transmission is used as the default for reception.

### *receive-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

Top

---

## X.25 user group identifier (USRGRPID)

Specifies the closed user-group ID for contacting this switched virtual circuit (SVC) controller on the X.25 network.

Specify the 2-digit decimal value, from 00 through 99, as provided by the network subscription. This parameter is not valid for permanent virtual circuit (PVC) connections. It is valid only for SVC circuit outgoing call operations and is ignored for SVC incoming call connections.

Top

---

## X.25 reverse charging (RVSCRG)

Specifies whether reverse charges are accepted or requested when contacting this controller.

### \*NONE

No reverse charging for network tariff billing is accepted.

### \*REQUEST

Charges are requested on outgoing call request packets.

### \*ACCEPT

Reverse charging for network tariff billing is accepted on incoming requests.

### \*BOTH

Both incoming and outgoing requests are accepted.

Top

---

## X.25 frame retry (X25FRMRTY)

Specifies the maximum number of times a frame is sent after the response timer ends when connected to this controller. The value for this parameter depends on the quality of service provided by the network and the connection to that network; that is, the frequency of lost link protocol data units.

7

The default for the maximum number of transmissions is 7.

### *X.25 frame retry*

Specify a value ranging from 0 through 21 for the number of times a frame is sent.

Top

---

## **X.25 connection retry (X25CNNRTY)**

Specifies the maximum number of times that a logical link control (LLC) protocol data unit is sent after the connect response timer expires when connecting to this controller.

7

The default for the maximum number of transmissions is 7.

### *X.25 connection retry*

Specify a value ranging from 0 through 21 for the number times a frame is sent.

Top

---

## **X.25 response timer (X25RSPTMR)**

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connected to this controller.

100

The default amount of time is 10 seconds.

### *X.25 response-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1-second intervals.

Top

---

## **X.25 connection timer (X25CNNTMR)**

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connecting to this controller.

100

The default amount of time is 10 seconds.

### *connection-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1 second intervals.

Top



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## X.25 delayed connection timer (X25DLYTMR)

Specifies the time interval between attempts to establish a connection to the controller.

### \*CALC

Use the values specified for the **X.25 connection timer (X25CNNTMR)** parameter and the **X.25 connection retry (X25CNNRTY)** parameter to determine how often and how many times to try establishing the connection.

### *X.25-delay-timer*

Specify a value ranging from 1 to 32767 units. Each unit represents 0.1 second. Connection attempts are repeated indefinitely at this time interval.

Top

---

## X.25 acknowledgement timer (X25ACKTMR)

Specifies the amount of time to delay sending acknowledgements for received frames.

### 20

The time allowed to delay sending an acknowledgment is 2 seconds.

### *X.25-acknowledgment-timer*

Valid values range from 1 to 2550 in 0.1 second intervals, or 0 to indicate no delay.

Top

---

## X.25 inactivity timer (X25INACTMR)

Specifies the time period used to determine an inactive condition for the controller. Valid values range from 1 to 2550 in 0.1 second intervals.

### 350

The time period used to determine an inactive condition for the controller is 3.5 seconds.

Top

---

## User facilities (USRFCL)

Specifies a string of hexadecimal characters sent to the X.25 network to request additional services. The system allows up to 218 hexadecimal characters.

Top

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## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

### Element 1: Maximum Recovery Limit

2

Two recovery attempts are made within the interval specified.

#### \*SYSVAL

The value in the QCMNRCYLMT system value is used.

#### *count limit*

Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

### Element 2: Recovery Time Interval

5

The specified number of recovery attempts is made within a 5-minute interval.

#### *time-interval*

Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

More information on communication recovery is in the Communications Management book, SC41-5406.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

#### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

\*ALL The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

\*USE The user can perform basic operations on the object, such as running a program or reading a file.

The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTCTLFNC  CTLD(FNC1)  TYPE(4701)  MODEL(0)  LINKTYPE(*SDLC)
           LINE(FNCLINE)  STNADR(C1)
```

This command creates a 4701 finance controller attached to a nonswitched SDLC line with a station address of C1.

Top

---

## Error messages

**\*ESCAPE Messages**

**CPF26BB**

Extended wireless controller member not changed.

**CPF26BC**

Extended wireless controller member not displayed.

**CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

**CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

**CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

**CPF26B3**

Extended wireless line member not added.

**CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

[Top](#)

## Create Ctl Desc (SNA Host) (CRTCTLHOST)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (SNA Host) (CRTCTLHOST) command creates a controller description for a Systems Network Architecture (SNA) Host controller. For more information about using this command is in the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
LINKTYPE	Link type	*DLUR, *FR, *LAN, *SDLC, *X25	Required, Positional 2
ONLINE	Online at IPL	*YES, *NO	Optional
SWITCHED	Switched connection	*NO, *YES	Optional
SHM	Short hold mode	*NO, *YES	Optional
SNBU	Switched network backup	*NO, *YES	Optional
APPN	APPN-capable	*YES, *NO	Optional
LINE	Attached nonswitched line	<i>Name</i>	Optional
SWTLINLST	Switched line list	Values (up to 64 repetitions): <i>Name</i>	Optional
MAXFRAME	Maximum frame size	265-16393, 256, 265, 512, 521, 1024, 1033, 1994, 2048, 2057, 4060, 4096, 8156, 16393, *LINKTYPE	Optional
RMTNETID	Remote network identifier	<i>Communications name</i> , *NETATR, *NONE, *ANY	Optional
RMTCPNAME	Remote control point	<i>Communications name</i> , *ANY	Optional
ADJLNKSTN	Adjacent link station	<i>Communications name</i> , *NONE, *ANY	Optional
SSCPID	SSCP identifier	050000000000-05FFFFFFFF	Optional
LCLEXCHID	Local exchange identifier	05600000-056FFFFF, *LIND	Optional
INLCNN	Initial connection	*DIAL, *ANS	Optional
DIALINIT	Dial initiation	*LINKTYPE, *IMMED, *DELAY	Optional
CNNNBR	Connection number	<i>Character value</i> , *DC, *ANY	Optional
ANSNBR	Answer number	*CNNNBR, *ANY	Optional
CNNLSTOUT	Outgoing connection list	<i>Name</i>	Optional
CNNLSTOUTE	Connection list entry	<i>Name</i>	Optional
STNADR	Station address	01-FE	Optional
ADPTADR	LAN remote adapter address	000000000001-FFFFFFFF	Optional
NETLVL	X.25 network level	1980, 1984, 1988	Optional
LINKPCL	X.25 link level protocol	*QLLC, *ELLC	Optional
LGLCHLID	X.25 logical channel ID	<i>Character value</i>	Optional

Keyword	Description	Choices	Notes
CNNPWD	X.25 connection password	<i>Character value, X''</i>	Optional
CPSSN	APPN CP session support	<u>*YES</u> , *NO	Optional
NODETYPE	Remote APPN node type	<u>*ENDNODE</u> , *LENNODE, *NETNODE, *CALC	Optional
BEXROLE	Branch extender role	<u>*NETNODE</u> , *ENDNODE	Optional
HPR	APPN/HPR capable	<u>*YES</u> , *NO	Optional
HPRPTHSWT	HPR path switching	<u>*NO</u> , *YES	Optional
TMSGRPNBR	APPN transmission group number	1-20, <u>1</u> , *CALC	Optional
MINSWTSTS	APPN minimum switched status	<u>*VRYONPND</u> , *VRYON	Optional
AUTOCRTDEV	Autocreate device	<u>*ALL</u> , *DEVINIT, *NONE	Optional
AUTODLTDEV	Autodelete device	1-10000, <u>1440</u> , *NO	Optional
USRDFN1	User-defined 1	0-255, <u>*LIND</u>	Optional
USRDFN2	User-defined 2	0-255, <u>*LIND</u>	Optional
USRDFN3	User-defined 3	0-255, <u>*LIND</u>	Optional
RECONTACT	Recontact on vary off	<u>*YES</u> , *NO	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
PRIDLUS	Primary DLUS name	Single values: *NONE Other values: <i>Element list</i>	Optional
	Element 1: Control point name	<i>Communications name</i>	
	Element 2: Network identifier	<i>Communications name, *NETATR</i>	
BKUDLUS	Backup DLUS name	Single values: *NONE Other values: <i>Element list</i>	Optional
	Element 1: Control point name	<i>Communications name</i>	
	Element 2: Network identifier	<i>Communications name, *NETATR</i>	
DEPPUNAME	Dependent PU name	<i>Communications name, *NONE</i>	Optional
ACTTMR	Activation timer	30-2550, <u>170</u>	Optional
RECNTTMR	Dsc/reconnect timer (T309)	1-2550, <u>170</u>	Optional
DEV	Attached devices	Values (up to 254 repetitions): <i>Name</i>	Optional
CODE	Character code	<u>*EBCDIC</u> , *ASCII	Optional
IDLCWDSIZ	IDLC window size	1-31, <u>*LIND</u>	Optional
IDLCFRMRTY	IDLC frame retry	0-100, <u>*LIND</u>	Optional
IDLCRSPTMR	IDLC response timer	10-100, <u>*LIND</u>	Optional
IDLCCNNRTY	IDLC connect retry	1-100, <u>*LIND</u> , *NOMAX	Optional
PREDIALDLY	Predial delay	0-254, <u>6</u>	Optional
REDIALDLY	Redial delay	0-254, <u>120</u>	Optional
DIALRTY	Dial retry	0-254, <u>2</u>	Optional
SWTDSC	Switched disconnect	<u>*NO</u> , *YES	Optional
DSCTMR	Disconnect timer	<i>Element list</i>	Optional
	Element 1: Minimum connect timer	0-65535, <u>170</u>	
	Element 2: Disconnection delay timer	0-65535, <u>30</u>	

Keyword	Description	Choices	Notes
DSAP	LAN DSAP	<b>04</b> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
SSAP	LAN SSAP	<b>04</b> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
LANFRMRTY	LAN frame retry	0-254, <u>*CALC</u>	Optional
LANCNNRTY	LAN connection retry	0-254, <u>*CALC</u>	Optional
LANRSPTMR	LAN response timer	0-254, <u>*CALC</u>	Optional
LANCNTMR	LAN connection timer	0-254, <u>*CALC</u>	Optional
LANACKTMR	LAN acknowledgement timer	0-254, <u>*CALC</u>	Optional
LANINACTMR	LAN inactivity timer	0-255, <u>*CALC</u>	Optional
LANACKFRQ	LAN acknowledgement frequency	0-127, <u>*CALC</u>	Optional
LANMAXOUT	LAN max outstanding frames	1-127, <u>*CALC</u>	Optional
LANACPTY	LAN access priority	0-3, <u>*CALC</u>	Optional
LANWDWSTP	LAN window step	1-127, <u>*NONE</u>	Optional
SWTLINSLCT	X.25 switched line selection	<u>*FIRST</u> , <u>*CALC</u>	Optional
DFTPFSIZE	X.25 default packet size	<i>Element list</i>	Optional
	Element 1: Transmit value	<u>*LIND</u> , 64, 128, 256, 512, 1024, 2048, 4096	
	Element 2: Receive value	<u>*LIND</u> , *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096	
DFTWDSIZE	X.25 default window size	<i>Element list</i>	Optional
	Element 1: Transmit value	1-15, <u>*LIND</u>	
	Element 2: Receive value	1-15, <u>*LIND</u> , *TRANSMIT	
USRGRPID	X.25 user group identifier	<i>Character value</i>	Optional
RVSCRG	X.25 reverse charging	<u>*NONE</u> , *REQUEST, *ACCEPT, *BOTH	Optional
X25FRMRTY	X.25 frame retry	0-21, <u>7</u>	Optional
X25RSPTMR	X.25 response timer	1-2550, <u>300</u>	Optional
X25ACKTMR	X.25 acknowledgement timer	0-2550, <u>20</u>	Optional
X25INACTMR	X.25 inactivity timer	1-2550, <u>1050</u>	Optional
USRFCL	User facilities	<i>Character value</i>	Optional
CMNRCYLMT	Recovery limits	Single values: *SYSVAL Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <u>2</u>	
	Element 2: Time interval	0-120, <u>5</u>	
MSGQ	Message queue	Single values: *SYSVAL, *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
AUT	Authority	<i>Name</i> , <u>*CHANGE</u> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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## Controller description (CTLDD)

This is a required parameter.

Specifies the name of the controller description.

Top

---

## Link type (LINKTYPE)

Specifies the type of line to which this controller is attached.

This is a required parameter.

### \*FR

This controller is attached to a frame relay line.

### \*LAN

This controller is attached to a DDI, Ethernet, or token-ring local area network (LAN) line.

### \*SDLC

This controller is attached to a synchronous data link control (SDLC) line.

### \*X25

This controller is attached to an X.25 line.

### \*DLUR

This controller is used for Dependent LU Requester (DLUR) functions and has no line attached.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

The controller is automatically varied on at IPL.

### \*NO

The controller is not automatically varied on at IPL.

Top



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## Switched connection (SWITCHED)

Specifies whether this controller is attached to a switched line, a token-ring network, Ethernet LAN, or an X.25 switched virtual circuit (SVC). \*NO must be specified for APPC controllers attached to a TDLC line.

### \*NO

This controller is attached to a nonswitched line. Specify this value for controllers attaching to an X.25 permanent virtual circuit (PVC).

### \*YES

This controller is attached to a switched line. Specify this value for controllers attached to an X.25 switched virtual circuit (SVC). Also specify this value for controllers attached to a local area network.

**Note:** If LINKTYPE is \*LAN, the SWITCHED parameter value must be \*YES or must not be specified.

Top

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## Short hold mode (SHM)

Specifies whether this controller is to be used for X.21 short hold mode. To specify \*YES, you must also specify \*SDLC for the **Link type (LINKTYPE)** parameter, and \*YES for the **Switched connection (SWITCHED)** parameter.

### \*NO

This controller is not used for X.21 short hold mode.

### \*YES

This controller is used for X.21 short hold mode.

Top

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## Switched network backup (SNBU)

Specifies whether the remote system modem has the switched network backup (SNBU) feature. The backup feature is used to bypass a broken nonswitched (leased line) connection by establishing a switched connection. To activate SNBU, you must change the controller description of the modem from nonswitched to switched by specifying \*YES for the **Activate swt network backup (ACTSNBU)** parameter.

**Note:** If the modem model you are using is an IBM 386x, 586x, or 786x, you should not change the controller description. Instead, manually switch the modem to the unswitched mode, and manually dial the connection.

Both the local and remote modems must support the SNBU feature to perform a valid activation.

\*NO The remote system modem does not have the SNBU feature.

### \*YES

The remote system modem has the SNBU feature.

Top

---

## APPN-capable (APPN)

Specifies whether the local system uses advanced peer-to-peer networking (APPN) functions when communicating with this controller. \*YES must be specified for APPC controllers attached to a TDLC line.

### \*YES

This controller is for APPN.

### \*NO

This controller is not for APPN.

Top

---

## Attached nonswitched line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

**Note:** The associated line must be varied off before this command is entered. Specify this parameter for controllers attaching to an X.25 permanent virtual circuit (PVC).

Top

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## Switched line list (SWTLINLST)

Specifies the names of the switched lines to which this controller attaches. The line descriptions must already exist. Up to 64 switched line names can be specified.

### *switched-line-name*

Specify the names of up to 64 lines that are connected to this controller. The same line name can be used more than once. For each line name specified, a line description by that name must already exist.

Top

---

## Maximum frame size (MAXFRAME)

Specifies the maximum frame (path information unit (PIU)) size the controller can send or receive. This value is used to calculate the request unit (RU) sizes. Since the maximum PIU size that the controller can send or receive is negotiated at exchange identifier time, the maximum PIU size used at run time may be different. This value matches the corresponding value on the host system.

### \*LINKTYPE

The following values are used for the various types:

- \*FR - 1590
- \*IDLC - 2048
- \*LAN - 16393
- \*SDLC - 521
- \*X25 - 1024

#### *maximum-frame-size*

Specify the frame size for the controller. The frame size that can be used depends on the type of line being used. Valid frame sizes for each line type are:

- For \*FR, specify a value from 265 through 8182.
- For \*IDLC, specify a value ranging from 265 through 8196.
- For \*LAN, specify a value from 265 through 16393 (265 through 4444 for DDI LANs).
- For \*SDLC, specify 265, 521, 1033, or 2057.
- For \*X25, specify 256, 265, 512, 521, 1024, 1033, 2048, or 4096.

Top

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## Remote network identifier (RMTNETID)

Specifies the NAME of the remote network in which the adjacent control point resides.

### \*NETATR

The LCLNETID value specified in the system network attributes is used.

### \*NONE

No remote network identifier (ID) is used.

### \*ANY

The system determines which remote network identifier is used.

#### *remote-network-identifier*

Specify the remote network identifier.

Top

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## Remote control point (RMTCPNAME)

Specifies the control point name of the remote system.

### \*ANY

The system determines the name of the remote control point used.

#### *remote-control-point-name*

Specify the remote control point NAME.

Top

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## Adjacent link station (ADJLNKSTN)

Specifies the NAME of the adjacent link station. This name is used by the operating system to identify which switched controller description on the IBM System i5 is used to establish a link to a host system. The adjacent link station name for the IBM System i5 must match the name provided by the host system during link activation.

### \*NONE

No adjacent link station NAME is specified.

### \*ANY

The system determines which adjacent link station is used.

*adjacent-link-station-name*

Specify the adjacent link station name.

Top

---

## SSCP identifier (SSCPID)

Specifies the system service control point identifier of the host system.

**Note:** The system service control point identifier (SSCPID) is a 12-digit hexadecimal value; the first 2 digits are hexadecimal 05. This parameter is required for SDLC switched and SNBU if APPN(\*YES) and NODETYPE(\*LENNODE) are specified, or if APPN(\*NO) is specified but RMTCPNAME is not specified. This parameter must be specified if SHM(\*YES) is also specified.

*system-service-control-point-identifier*

Specify the system service control point identifier as a 12-digit hexadecimal value.

Top

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## Local exchange identifier (LCLEXCHID)

Specifies the number used to identify the local system to the remote system. **NOTE:**

This parameter is necessary under either of the following conditions:

1. if parallel connections are required between an IBM System i5 and an SNA host system.
2. for Dependent LU Requester (DLUR) support (LINKTYPE(\*DLUR)), if the dependent physical unit name (DEPPUNAME) parameter is not specified.

### \*LIND

The system uses the exchange identifier specified in the line description on the EXCHID parameter associated with this controller description.

### *local-exchange-identifier*

Specify a local exchange identifier. The first three digits of this 8-digit hexadecimal number identify the block number and the remaining five digits identify the system.

Top

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## **Initial connection (INLCNN)**

Specifies the method used to establish a connection with this controller.

### \*DIAL

The system initiates outgoing calls and answers incoming calls.

### \*ANS

The connection is made by the IBM System i5 when it answers an incoming call from this controller. If a call is received from the remote controller and all necessary conditions are met, the incoming call is answered by the system.

For X.25 connections, the line attached to the controller requires switched virtual circuits (SVCs) configured on the LGLCHLE parameter of type OUT or BOTH(\*SVCOUT or \*SVCBOTH) for the connection to succeed.

The line can be changed using the Change Line Description (X.25) (CHGLINX25) command.

Top

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## **Dial initiation (DIALINIT)**

Specifies the method used to make the initial dial on a switched line between the system and the remote controller.

### \*LINKTYPE

The type of dial connection initiated is specified on the LINKTYPE parameter. For LAN or SDLC short-hold mode connections, the default is to dial the connection as soon as the controller description is varied on. For all other link types, the default is to delay dialing.

### \*IMMED

The dial connection is initiated as soon as the controller description is varied on.

### \*DELAY

The dial connection is delayed until a job is initiated that requests the use of the remote controller resources.

---

## Connection number (CNNNBR)

Specifies the telephone number to dial to connect to this controller.

**\*DC**

Direct call is being used in an X.21 circuit switched network.

**\*ANY** The system accepts calls from any network address.

*connection-number*

Specify the connection number.

---

## Answer number (ANSNBR)

Specifies the X.25 network address from which calls are accepted.

**\*CNNNBR**

Calls from the X.25 network address specified on the CNNNBR parameter are accepted.

**\*ANY**

Calls are accepted from any X.25 network address.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## Outgoing connection list (CNLSTOUT)

Specifies, for ISDN switched connections, the name of a connection list object that contains the ISDN assigned numbers for a dial out operation to the ISDN.

*list-object*

Specify the name of a connection list object.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## Connection list entry (CNLSTOUTE)

Specifies, for ISDN switched connections, the entry name from the connection list that is used to make a call to the ISDN. The connection list must have been identified on the **Outgoing connection list (CNLSTOUT)** parameter.

*entry-name*

Specify an entry name.

Top

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## Station address (STNADR)

Specifies the station address used when communicating with the controller.

Valid values range from 00 to FE.

**Note:** 00 can be specified only for APPC controllers when \*TDLC is specified for the **Link type (LINKTYPE)** parameter.

**Note:** If \*SEC is specified on the ROLE parameter, this is the station address of the remote controller. If \*PRI or \*NEG is specified on the ROLE parameter, this is the local station address.

Top

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## LAN remote adapter address (ADPTADR)

Specifies the 12-character adapter address of the remote controller. This is the address to which the system sends data when it communicates with the remote controller. This value can be obtained from the remote controller's configuration record. Valid values range from hex 000000000001 through hex FFFFFFFF.

*adapter-address*

Specify the adapter address of the remote controller.

Top

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## X.25 network level (NETLVL)

Specifies the level of the X.25 network used to access this controller. The level is specified by giving the year of the standard used by the X.25 network.

**Note:** Use of the lower value of the remote DTE or the network level is suggested; for example, if the remote DTE is using the CCITT standard of 1980 and the network 1984, specify 1980 for this parameter.

**1980**

The 1980 Standard is used.

**1984**

The 1984 Standard is used.

1988

The 1988 Standard is used.

Top

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## X.25 link level protocol (LINKPCL)

Specifies the link level protocol used on the X.25 network to communicate with this controller.

### \*QLLC

The Qualified Logical Link Control (QLLC) protocol is used.

### \*ELLC

The Enhanced Logical Link Control (ELLC) protocol is used.

Top

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## X.25 logical channel ID (LGLCHLID)

Specifies the logical channel identifier used for the X.25 permanent virtual circuit (PVC) to this controller. The valid entry is xyy. Where:

- x = the logical group number, derived from your network subscription.
- yy = the logical channel number, derived from your subscription. The logical channel identifier must be one of the PVC logical channel identifiers that was defined in the X.25 line description. There is no default for this parameter.

Top

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## X.25 connection password (CNNPWD)

Specifies the X.25 network password used for password exchange with the X.24 Call Request and Incoming Call packets (Call User Data field). This parameter is not valid for permanent virtual circuit (PVC) connections.

If you want to use a connection password that consists of characters whose hexadecimal value is less than 40, you must specify the password as a hexadecimal value. When less than 8 bytes are specified, the end of the password field is padded with blanks. A password of all blank is valid. All incoming call requests must match this password to establish a connection.

To specify a hexadecimal password, the digits must be specified in multiples of two, be no more than 16 digits long, be enclosed in apostrophes, and be preceded by an X. For example, X'0102030405' is a valid hexadecimal password.

**Note:** This connection password is highly recommended for controllers that operate with the Enhanced Logical Link Control (ELLC) protocol LINKPCL(\*ELLC) on switched virtual circuit (SVC) connections. This enhanced protocol supports reconnection of virtual circuits after network errors which disconnect



the line with a clear signal; however, this reconnection is not allowed to proceed without the password validation procedure being used as a unique identifier for the controller.

### *X.25-connection-password*

Specify the connection password. The password for each controller can consist of any alphanumeric characters represented by the hexadecimal values ranging from 40 through FF.

Top

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## **APPN CP session support (CPSSN)**

Specifies whether this controller supports sessions between control points.

### \*YES

This controller supports sessions between control points.

### \*NO

This controller does not support sessions between control points.

Top

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## **Remote APPN node type (NODETYPE)**

Specifies the type of APPN node which this controller represents.

### \*ENDNODE

This node is an end node in an APPN network.

### \*LENNODE

This node is a low-entry networking node in an APPN network.

### \*NETNODE

This node is a network node in an APPN network.

### \*CALC

The system determines the type of node this controller represents.

Top

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## Branch extender role (BEXROLE)

Specifies the role of the local system in an APPN network for the remote controller being configured. This parameter is only used when the local system has enabled the branch extender function via the NODETYPE parameter in the network attributes being set to \*BEXNODE.

### \*NETNODE

The local system takes the role of a network node for the remote controller.

### \*ENDNODE

The local system takes the role of an end node for the remote controller.

Top

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## APPN/HPR capable (HPR)

Specifies whether the local system can use APPN high-performance routing (HPR) when communicating with this controller. The controller description must specify APPN(\*YES) to enable HPR. If HPR(\*YES) is specified, the value of the MAXFRAME parameter of the line specified by the switched line list must be greater than or equal to 768, otherwise HPR will not be enabled over this connection.

### \*YES

The local system can use HPR, and HPR flows can proceed over the link defined by this controller.

### \*NO

The local system cannot use HPR, and HPR flows cannot proceed over the link defined by this controller.

Top

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## HPR path switching (HPRPTHSWT)

Specifies whether an attempt is made to switch paths of HPR connections associated with this controller at the time the controller is varied off. If a path switch is not attempted or if there are no other available paths, jobs associated with the HPR connections will be ended.

See the APPN information in the Networking category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for more information.

### \*NO

When this controller is varied off path switching will not be done for HPR connections associated with this controller. Jobs associated with HPR connections will be ended.

### \*YES

When this controller is varied off an attempt to switch paths of HPR connections associated with this controller will be made.

Top

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## APPN transmission group number (TMSGRPNBR)

Specifies the transmission group number for this controller.

1

The default transmission group is one.

\*CALC

The system specifies the value for the transmission group number.

*transmission-group-number*

Specify a value from 1 to 20 for the transmission group number.

Top

---

## APPN minimum switched status (MINSWTSTS)

Specifies the minimum status of the switched connection so that APPN will consider it as a controller that is available for routing.

\*VRYONPND

APPN will consider the controller available for routing if the status is vary on pending, varied on, or active.

\*VRYON

APPN will consider the controller available for routing only if the status is varied on or active.

Top

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## Autocreate device (AUTOCRTDEV)

Specifies whether device descriptions can be automatically created for this controller description.

\*ALL

All dependent devices than can be automatically created for this controller, except APPC devices, are automatically created.

\*DEVINIT

Only session printer and display devices started by the SNA host controller (device-initiated) are automatically created.

**\*NONE**

Dependent devices on this controller are not automatically created.

Top

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## Autodelete device (AUTODLTDEV)

Specifies the number of minutes an automatically created device can remain in an idle state (when there are no active conversations on that device). When the time expires, the system automatically varies off and deletes the device description.

1440

The system will automatically vary off and delete the automatically-configured idle device descriptions after 1440 minutes (24 hours).

**\*NO**

The system will not automatically vary off and delete the automatically-configured idle device descriptions.

*wait-time*

Specify the number of minutes to wait before deleting the automatically-configured idle device descriptions for this controller. Valid values range from 1 to 10,000.

Top

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## User-defined 1 (USRDFN)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

\*LIND

The user-defined value specified in the line description is used.

*user-defined*

Specify a value ranging from 0 through 255.

Top

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## User-defined 2 (USRDFN)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

### \*LIND

The user-defined value specified in the line description is used.

*user-defined*

Specify a value ranging from 0 through 255.

Top

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## User-defined 3 (USRDFN)

This field is used to describe unique characteristics of the line that you want to control. This parameter is valid only if advanced peer-to-peer networking (APPN) is used on the system.

### \*LIND

The user-defined value specified in the line description is used.

*user-defined*

Specify a value ranging from 0 through 255.

Top

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## Recontact on vary off (RECONTACT)

Specifies whether a request for re-contact is sent to the host system when a normal vary off of the controller description is done.

**Note:** This parameter is valid only for X.25 and SDLC leased lines (if \*X.25 or \*SDLC is specified on the LINKTYPE parameter and \*NO is specified on the SWITCHED parameter).

### \*YES

A request for re-contact to the remote system is sent.

### \*NO

A request for re-contact to the remote system is not sent. When this value is specified, a status of inactive is shown for the remote system.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Primary DLUS name (PRIDLUS)

Specifies the primary Dependent LU Server (DLUS) NAME and network identifier.

The name is in the format of XXXXXXXX YYYYYYYY the prefix being the CP name and the suffix being the network identifier of the APPN network (subnet) that the remote DLUS resides in. If the DLUS is in the same network as the IBM System i5, then the user only needs to define the CP name; the default network identifier that is used is the local network identifier specified in the network attributes.

The network qualified CP name of the remote DLUS system services control point (SSCP) with which the DLUR host controller prefers to communicate. If this parameter is filled in and the DLUR controller is configured as Initial Connection \*DIAL, the IBM System i5 sends an activation request to this DLUS first.

The default is \*NONE, but if Initial Connection is \*DIAL INLCNN(\*DIAL), then this parameter becomes a required parameter.

### Element 1: Primary DLUS name

#### \*NONE

No primary CP name is given.

### *primary-DLUS-name*

Specify the name of the primary Dependent LU Server.

### Element 2: Network ID

#### \*NETATR

The LCLNETID value specified in the system network attributes is used.

### *network-ID*

Specify the network identifier of the Dependent LU Server.

Top

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## Backup DLUS name (BKUDLUS)

Specifies the backup Dependent LU Server (DLUS) name and network identifier.

The name is in the format of XXXXXXXX YYYYYYYY the prefix being the CP name and the suffix being the network identifier of the APPN network (subnet) that the remote DLUS resides in. If the DLUS is in the same network as the IBM System i5, then the user only needs to define the CP name; the default network identifier that is used is the local network identifier specified in the network attributes.

The network qualified CP name of the remote DLUS system services control point (SSCP) with which the DLUR host controller prefers to communicate. If this parameter is filled in and the DLUR controller is configured as Initial Connection \*DIAL, the IBM System i5 sends an activation request to this DLUS first.

The default is \*NONE, but if Initial Connection is \*DIAL INLCNN(\*DIAL), then this parameter becomes a required parameter.

### Element 1: Backup DLUS Name

\*NONE

No backup CP name is given.

*backup-DLUS-name*

Specify the NAME of the backup Dependent LU Server.

### Element 2: Network ID

\*NETATR

The LCLNETID value specified in the system network attributes is used.

*network-ID*

Specify the network identifier of the backup Dependent LU Server.

Top

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## Dependent PU name (DEPPUNAME)

Specifies the dependent physical unit (PU) name used for DLUR, providing additional security for the connection.

If this name is filled in, an activation request (SNA ACTPU) from a DLUS node must reference this name or it will be rejected.

When the IBM System i5 DLUR node initiates a session with the remote DLUS node (INLCNN(\*DIAL)), the dependent PU NAME will be sent to the DLUS and it will return that name on the ACTPU request.

If the remote DLUS node initiates a session to the DLUR host controller via activation of pre-defined definitions on the DLUS node, there will have to be close coordination of the dependent PU NAME and the PU NAME specified on the DLUS.

If this parameter is not filled in, then checking is done on the local exchange ID and remote CP name parameters of the controller.

#### \*NONE

No location name is defined.

#### *dependent-PU-NAME*

Specify the dependent PU NAME used for DLUR applications.

Top

---

### **30-2550 (seconds) (ACTTMR)**

This timer is used when system attempts to activate a session to the remote DLUS node (initial connection \*DIAL). It is the amount of time the system will wait for an answer from the remote DLUS.

This parameter is used in conjunction with recovery limits (CMNRCYLMT) count limit and timer interval. For each attempt (up to count limit), an activation request (timed by the activation timer) is requested. Between attempts, the system waits for the timer interval before a new activation is attempted (assuming the system times out before receiving a retry error message).

The three parameters on the attempts to the primary DLUS are used and, once the count limit is exceeded, the system resets and tries the same retry limit count to the backup DLUS (if configured). Once the retry limit count is exhausted to all configured DLUS nodes, an error message is issued to the QSYSOPR message log with options to retry the whole activation sequence again.

#### 170

The default time of 170 seconds is used.

#### *activation-timer-value*

Specify, in seconds, a value ranging from 30 through 2550.

Top

---

### **Dsc/reconnect timer (T309) (RECNTMR)**

This timer is used when a session outage occurs to the remote DLUS node. It is the amount of time the host system DLUR support waits for the DLUS node to send an activation request back to the host system. Once the timer expires, host system does the following:

- If the DLUR host controller is configured to INLCNN(\*DIAL):
  1. The DLUR support makes a one time attempt to activate a session to the DLUS node the system was connected to at the time of session outage.
  2. If that attempt fails, an error message is displayed in the QSYSOPR message log with retry option. If retry is taken, then the activation request is sent through the configured primary/backup DLUS again.
- If the DLUR host controller is configured to INLCNN(\*ANS):
  1. The DLUR controller waits for an activation attempt from any DLUS node.



The default time of 170 seconds is used.

*reconnect-timer-value*

Specify, in seconds, a value ranging from 30 through 2550.

Top

---

## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

Up to 254 devices can be attached to this controller.

Top

---

## Character code (CODE)

Specifies whether the extended binary-coded decimal interchange code (\*EBCDIC) or the American National Standard Code for Information Interchange (\*ASCII) character code is used on the line.

\*EBCDIC

The extended binary-coded decimal interchange code (EBCDIC) character code is used.

\*ASCII

The ASCII character code is used.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## IDLC window size (IDLCWDWSIZ)

Specifies the window size for transmission to and reception controllers attached to the IDLC line.

\*LIND

The value specified in the line description is used as the default window size.

*window-size*

Specify the window size. Valid values range from 1 through 31.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## IDLC frame retry (IDLCFRMRTY)

Specifies the maximum number of attempts to transmit a frame before reporting an error.

### \*LIND

The number of attempts specified in the line description is used.

### *IDLC-frame-retry*

Specify a number of attempts. Valid values range from 0 through 100.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## IDLC response timer (IDLCRSPTMR)

Specifies the amount of time, in tenths of a second, to wait before retransmitting a frame if acknowledgement has not been received.

### \*LIND

The time specified in the line description is used.

### *IDLC-response-timer*

Specify an amount of time. Valid values range from 10 through 100 tenths of a second. For example, 100 tenths of a second equals 10 seconds.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## IDLC connect retry (IDLCCNNRTY)

Specifies the number of times to attempt retransmission at connection time.

### \*LIND

The number of attempts specified in the line description is used.

### \*NOMAX

Indicates to continue until a successful transmission has been made.

### *connect-retry*

Specify a number of attempts. Valid values range from 1 through 100.

Top

---

## Predial delay (PREDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before dialing a number.

6

The default value of 6 provides a 3-second delay.

### *predial-delay*

Specify a value ranging from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Redial delay (REDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

120 The default value of 120 provides a 60-second delay.

### *redial-delay*

Specify a value from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Dial retry (DIALRTY)

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

2 The default number of retries is 2.

### *dial-retry*

Specify a value from 0 to 254 in 0.5-second intervals, for the number of times the dialing will be tried.

Top

---

## Switched disconnect (SWTDSC)

Specifies whether the switched connection to this controller is dropped when the last device is varied off.

\*NO

The switched connection is not dropped when the last device is varied off.

\*YES

The switched connection is varied off when the last device is varied off.

Top

---

## Disconnect timer (DSCTMR)

Specifies options for controlling the time (in seconds) before a connection without activity is dropped, or the amount of time to delay the automatic disconnection. If the user does not want the line to drop, specify \*NO for the SWTDSC parameter.

### Element 1: Minimum Connect Timer

170

A connection is dropped when it has been inactive for 170 seconds.

*disconnect-timer*

Specify a time to wait before disconnecting. Valid values range from 0 through 65535 seconds.

### Element 2: Disconnect Delay Timer

30

The disconnection is delayed for 30 seconds.

*disconnect-delay-timer*

Specify a value to delay link take down after the last session on the controller is stopped. Valid values range from 0 through 65535 seconds.

Top

---

## LAN DSAP (DSAP)

Specifies the destination service access point (DSAP). This is the logical address this system will send to when it communicates with the remote controller. This address allows the controller to properly route the data that comes from this system. The default value for the destination service access point is 04.

The value must match the value specified on the source service access point (SSAP) parameter in the remote controller's configuration record.

**Note:** The \*OPC controller uses the value above for this field. The combination of RMTSYSNAME and DSAP defines a unique controller. This allows multiple controllers to exist between two systems.

04

The destination service access point is the default 04.

*destination-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the destination service access point.

Top

---

## LAN SSAP (SSAP)

Specifies the source service access point (SSAP). This is the logical address the local system uses when it sends data to the remote controller. This address allows the controller to properly route the data that comes from the local system. The default value for the source service access point is 04.

It must match the value assigned to the destination service access point (DSAP) in the remote controller's configuration record.

04

The system uses the logical address of 04.

*source-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the source service access point.

Top

---

## LAN frame retry (LANFRMRTY)

Specifies the number of times to retry a transmission when there is no acknowledgment from the remote controller in the time period specified by the LANRSPTMR parameter. This value is only used after a successful connection has been made.

\*CALC

The system determines the timer value.

*LAN-frame-retry*

Specify a value ranging from 0 through 254 for the number of times a frame is transmitted before an acknowledgement is received.

Top

---

## LAN connection retry (LANCNNRTY)

Specifies the number of times a transmission is attempted before an acknowledgement is received. This value is used at connection time (unlike LANFRMRTY which is used after a connection has been made).

\*CALC

The system determines the timer value.

*LAN-connection-retry*

Specify a value ranging from 0 through 254 for the number of times the transmission is attempted before an acknowledgement is received.

Top

---

## LAN response timer (LANRSPTMR)

Specifies the time period used to determine an inoperative condition on the link when connected.

### \*CALC

The system determines the timer value.

### *LAN-response-timer*

Specify a value from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN connection timer (LANCNNTMR)

Specifies the time period used to determine an inoperative condition on the link at connection time.

### \*CALC

The system determines the timer value.

### *LAN-connection-timer*

Specify a value ranging from 1 through 254 in 0.1-second intervals for the amount of time the system waits before an inoperative condition occurs. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement timer (LANACKTMR)

Specifies the time interval to delay sending acknowledgements for received frames.

### \*CALC

The system determines the timer value.

### *LAN-acknowledgement-timer*

Specify a value ranging from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0. If 0 is specified for the **LAN acknowledgement frequency (LANACKFRQ)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKFRQ parameter, a non-zero number must also be specified for this parameter.

Top

---

## LAN inactivity timer (LANINACTMR)

Specifies the time period used to determine an inactive condition for the controller.

### \*CALC

The system determines the timer value.

#### *LAN-inactivity-timer*

Specify a value ranging from 1 through 255 in 0.1-second intervals for the length of time used to determine an inactive condition for the controller. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement frequency (LANACKFRQ)

Specifies the maximum number of frames received before sending an acknowledgement to the controller.

### \*CALC

The system determines the LAN acknowledgement frequency value.

#### *LAN-acknowledge-frequency*

Specify a value from 0 to 127 for the number of frames received. If 0 is specified for the **LAN acknowledgement timer (LANACKTMR)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKTMR parameter, a non-zero number must also be specified for this parameter.

Top

---

## LAN max outstanding frames (LANMAXOUT)

Specifies the maximum number of frames that can be sent before an acknowledgement is received from the remote system.

### \*CALC

The system determines the LAN maximum outstanding frames value.

#### *LAN-maximum-outstanding-frames*

Specify a value ranging from 1 through 127 for the number of frames that can be sent before an acknowledgement is received.

Top

---

## LAN access priority (LANACCPTY)

Specifies the priority used for accessing the remote controller. The larger the number the higher the priority for this controller. This parameter is only used when the controller attaches to TRLAN.

### \*CALC

The system determines the LAN access priority value.

### *LAN-access-priority*

Specify a value from 0 to 3 for the access priority for this controller on a local area network (LAN).

Top

---

## LAN window step (LANWDWSTP)

Specifies whether to reduce to 1 the maximum number of frames outstanding to the remote system during network congestion. This parameter (LAN Window Step) indicates the number of frames that must be successfully received by the remote system before the number of maximum outstanding frames can be increased by 1. The increase continues this way until the maximum number of outstanding frames reaches the value specified by the LAN maximum outstanding frames (LANMAXOUT) parameter.

### \*NONE

The number of outstanding frames is not reduced during network congestion.

### *LAN-window-step*

Specify a value from 1 to 127 for the number of frames that must be successfully received by the remote system before the maximum number of outstanding frames can be increased by 1.

Top

---

## X.25 switched line selection (SWTLINSLCT)

Specifies the method that is used to select lines from an X.25 switched line list.

### \*FIRST

Lines are selected beginning with the first line in the switched line list.

### \*CALC

The system determines which line in the switched line list will be selected.

Top



---

## X.25 default packet size (DFTPCKTSIZE)

Specifies the default packet size used by the X.25 network for transmission and reception.

### Element 1: Transmit Packet Size

\*LIND

The value specified in the line description is the default value.

*transmit-packet-size*

Specify a default packet size for transmission. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

### Element 2: Receive Packet Size

\*LIND

The value specified in the line description is the default value.

\*TRANSMIT

The value specified as the default packet size for transmission is used as the default for reception.

*receive-packet-size*

Specify a default packet size for reception. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

Top

---

## X.25 default window size (DFTWDWSIZE)

Specifies the default window size for transmission and reception.

### Element 1: Transmit Window Size

\*LIND

The value specified in the line description is used as the default window size.

*transmit-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15. For switched virtual circuit (SVC) incoming calls, the system accepts the window size indicated in the Incoming Call packet facilities field.

### Element 2: Receive Window Size

\*LIND

The value specified in the line description is used as the default window size.

**\*TRANSMIT**

The value specified as the default window size for transmission is used as the default for reception.

*receive-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

Top

---

## **X.25 user group identifier (USRGRPID)**

Specifies the closed user-group ID for contacting this switched virtual circuit (SVC) controller on the X.25 network.

Specify the 2-digit decimal value, from 00 through 99, as provided by the network subscription. This parameter is not valid for permanent virtual circuit (PVC) connections. It is valid only for SVC circuit outgoing call operations and is ignored for SVC incoming call connections.

Top

---

## **X.25 reverse charging (RVSCRG)**

Specifies whether reverse charges are accepted or requested when contacting this controller.

**\*NONE**

No reverse charging for network tariff billing is accepted.

**\*REQUEST**

Charges are requested on outgoing call request packets.

**\*ACCEPT**

Reverse charging for network tariff billing is accepted on incoming requests.

**\*BOTH**

Both incoming and outgoing requests are accepted.

Top

---

## **X.25 frame retry (X25FRMRTY)**

Specifies the maximum number of times a frame is sent after the response timer ends when connected to this controller. The value for this parameter depends on the quality of service provided by the network and the connection to that network; that is, the frequency of lost link protocol data units.

7

The default for the maximum number of transmissions is 7.

### *X.25 frame retry*

Specify a value ranging from 0 through 21 for the number of times a frame is sent.

Top

---

## **X.25 response timer (X25RSPTMR)**

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connected to this controller.

300

The time allowed to return an acknowledgment is 30 seconds.

### *X.25 response-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1-second intervals.

Top

---

## **X.25 acknowledgement timer (X25ACKTMR)**

Specifies the amount of time to delay sending acknowledgements for received frames.

20

The time allowed to delay sending an acknowledgment is 2 seconds.

### *X.25-acknowledgment-timer*

Valid values range from 1 to 2550 in 0.1 second intervals, or 0 to indicate no delay.

Top

---

## X.25 inactivity timer (X25INACTMR)

Specifies the time period used to determine an inactive condition for the controller. Valid values range from 1 to 2550 in 0.1 second intervals.

1440

The time period used to determine an inactive condition for the controller is 10.5 seconds.

Top

---

## User facilities (USRFCL)

Specifies a string of hexadecimal characters sent to the X.25 network to request additional services. The system allows up to 218 hexadecimal characters.

Top

---

## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

### Element 1: Maximum Recovery Limit

2

Two recovery attempts are made within the interval specified.

\*SYSVAL

The value in the QCMNRCYLMT system value is used.

*count limit*

Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

### Element 2: Recovery Time Interval

5

The specified number of recovery attempts is made within a 5-minute interval.

*time-interval*

Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

More information on communication recovery is in the Communications Management book, SC41-5406.

Top

---

## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

### **\*SYSVAL**

Messages are sent to the message queue defined in the QCFGMSGQ system value.

### **\*SYSOPR**

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

### **Qualifier 1: Message queue**

*name* Specify the name of the message queue to which operational messages are sent.

### **Qualifier 2: Library**

*name* Specify the name of the library where the message queue is located.

For more information about using this command, see the Communications Management book, SC41-5406.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTCTLHOST  CTLD(HOST1) LINKTYPE(*LAN) SWTLINLST(LAN1)
             RMTCPNAME(CPX) ADPTADR(056000000011)
```

This command creates a host controller on a local area network.

[Top](#)

---

## Error messages

### \*ESCAPE Messages

#### **CPF26BB**

Extended wireless controller member not changed.

#### **CPF26BC**

Extended wireless controller member not displayed.

#### **CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

#### **CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

#### **CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

#### **CPF26B3**

Extended wireless line member not added.

#### **CPF26B4**

Extended wireless line member not changed.

#### **CPF26B5**

Extended wireless line member not displayed.

#### **CPF26B8**

Extended wireless controller member not added.

#### **CPF2716**

Controller description &1 not created.

[Top](#)

## Create Ctl Desc (Local WS) (CRTCTLLWS)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (Local Work Station) (CRTCTLLWS) command creates a controller description for a local work station controller.

**Note:** Extended wireless controller configuration data is contained in the source file and member specified by the INZFILE and INZMBR parameters, respectively. When the controller is varied on, this configuration data is downloaded to the wireless adapter. It is recommended that INZPGM(QZXCINZ) and INZFILE(QEWCSRC) be used, and that a valid value be specified for the INZMBR parameter. For more information about downloading extended wireless controller configuration data, see the LAN, Frame-Relay and ATM Support book, SC41-5404 book.

More information about using this command is in the Local Device Configuration book, SC41-5121 book.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	Name	Required, Positional 1
TYPE	Controller type	Character value	Required, Positional 2
MODEL	Controller model	Character value, 1, 0001, 2, 0002	Required, Positional 3
RSRCNAME	Resource name	Name	Required, Positional 4
ONLINE	Online at IPL	*YES, *NO	Optional
INZFILE	Initialization source file	Qualified object name	Optional
	Qualifier 1: Initialization source file	Name, *NONE	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
INZMBR	Initialization source member	Name, *NONE	Optional
INZPGM	Initialization program	Qualified object name	Optional
	Qualifier 1: Initialization program	Name, *NONE	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
TEXT	Text 'description'	Character value, *BLANK	Optional
DEV	Attached devices	Values (up to 120 repetitions): Name	Optional
DEVWAITTMR	Device wait timer	2-600, 10	Optional
AUTOCFG	Auto-configuration controller	*NO, *YES	Optional
AUT	Authority	Name, *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Keyword	Description	Choices	Notes
MSGQ	Message queue	Single values: *SYSVAL, *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	

Top

---

## Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

---

## Controller type (TYPE)

This is a required parameter.

Specifies the type of controller for this description.

**2637**

The ASCII local work station controller on a 9402 system.

**2638**

The twinaxial local work station controller on a 9402 system.

**2661**

The twinaxial local work station controller on a 9402 system.

**266A**

The local work station controller for wireless devices is used.

**266C**

Local work station controller.

**2722**

Local work station controller.

**2746**

Twinaxial work station controller.

**2747**

**502** System i: Programming i5/OS commands Starting with COMMIT (Commit)



6040 Twinaxial work station controller.

6041 The twinaxial local work station controller on a 9406 system.

6050 The ASCII local work station controller on a 9406 system.

6054 The twinaxial local work station controller on a 9402, 9404, or a 9406 system.

6055 The twinaxial local work station controller on a 9402, 9404, or a 9406 system.

6056 The twinaxial local work station controller on a 9402, 9404, or a 9406 system.

6140 The twinaxial local work station controller on a 9402, 9404, or a 9406 system.

6141 The twinaxial local work station controller on a 9404 system.

6180 The ASCII local work station controller on a 9404 system.

6A58 Local work station controller.

6A59 The local work station controller on a 9401, 9402, 9404, or 9406 system.

915A The local work station controller on a 9401, 9402, 9404, or 9406 system.

The local work station controller for the 9406-3XX system is used.

**916A**

The local work station controller for the 9406-3XX system is used.

**9173**

The LocalTalk work station adapter for the 9402-2xx system is used.

Top

---

## Controller model (MODEL)

This is a required parameter.

Specifies the model of the work station controller. For controller types 6A58 and 6A59, model 0001 is for the local work station controller and model 0002 is for the operations console. All other controller types use only model 0001.

Top

---

## Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware this description represents. Use the WRKHDWRSC command to determine the resource name.

This is a required parameter.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

The controller is automatically varied on at IPL.

### \*NO

The controller is not automatically varied on at IPL.

Top

---

## Initialization source file (INZFILE)

Specifies the NAME of a source file containing configuration initialization data.

**Note:** The INZFILE and INZMBR parameters are required when downloading extended wireless controller configuration data to the wireless adapter as discussed at the beginning of this command description.

### \*NONE

No initialization file name is specified.

The NAME of the initialization file NAME can be qualified by one of the following library values:

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

### *library-name*

Specify the name of the library to be searched.

### *initialization-file-name*

Specify the name of a source file containing the initialization data. A value of \*NONE is accepted for this parameter. If a source file name has not been added prior to varying on this controller description then the current IOP defaults are used for initialization.

Top

---

## Initialization source member (INZMBR)

Specifies the NAME of a source file member containing configuration initialization data (for a type 266A controller only).

**Note:** The INZFILE and INZMBR parameters are required when downloading extended wireless controller configuration data to the wireless adapter as discussed at the beginning of this command description.

### \*NONE

No source file member is specified.

### *initialization-member-name*

Specify the name of a source file member containing the initialization data. A value of \*NONE is accepted for this parameter. If a source member name has not been added prior to varying on this controller description, then the current IOP defaults are used.

Top

---

## Initialization program (INZPGM)

Specifies the name of a program to manage configuration initialization data.

**Note:** For 2663 wireless adapters, it is recommended that INZPGM(QZXCINZ) be specified. This results in the values of INZFILE and INZMBR being passed to the Change Extended Wireless Line Member (CHGEWLM) command when the line is varied on.

**\*NONE**

No initialization program name is specified.

The NAME of the initialization program NAME can be qualified by one of the following library values:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

***library-name***

Specify the name of the library to be searched.

***initialization-program-name***

Specify the name of a program to manage configuration initialization data. If a program name is specified, it is called when this controller description is created. The name of the source file and member containing configuration initialization data are passed to this program as parameters.

Top

---

## **Text 'description' (TEXT)**

Specifies the text that briefly describes the object.

**\*BLANK**

No text is specified.

***character-value***

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## **Attached devices (DEV)**

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

The following list shows the maximum number of device descriptions that can be attached to each controller and the number of devices that can be active for each controller.

**Controller**

**Device Descriptions/Active Devices**

2661	120/40
266A	56/56
2637	24/24
2638	56/24
6040	56/40
6041	36/18
6050	120/40
6054	56/56
6055	56/56
6056	56/56
6140	56/40
6141	36/18
6A58	1/1
6A59	1/1
915A	56/40
916A	56/40

Top

---

## Device wait timer (DEVWAITTMR)

Specifies the device wait timeout value. This is used to limit the amount of time that a subsystem takes for the work station input/output to complete. The timeout value that is used for each device is obtained from the controller that it is attached to at vary on time. A change in this parameter value takes effect for attached devices when they are next varied on.

### 10

For local controllers, the subsystem waits a maximum of 10 seconds for the completion of the input/output of each work station attached to this controller.

#### *device-wait-timer*

Specify a value ranging from 2 through 600 that specifies the maximum number of seconds that the subsystem waits for work station input/output to complete for all work stations attached to this controller.

When selecting a value for this parameter, the types of devices attached to the controller should be taken into account. Locally attached work stations should have a low value for this parameter (10 seconds or less).

Top

---

## Auto-configuration controller (AUTOCFG)

Specifies whether this controller description is the one which should have devices attached when they are automatically configured. Although there can be more than one controller description for each controller, only one description can be an automatic configuration controller. When new devices are automatically configured on that controller, they are attached to the automatic configuration controller description.

### \*NO

This is not an automatic configuration controller.

### \*YES

This is an automatic configuration controller.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

### \*SYSVAL

Messages are sent to the message queue defined in the QCFGMSGQ system value.

### \*SYSOPR

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

#### **Qualifier 1: Message queue**

*name* Specify the name of the message queue to which operational messages are sent.

#### **Qualifier 2: Library**

*name* Specify the name of the library where the message queue is located.

For more information about using this command, see the Communications Management book, SC41-5406.

Top

---

## **Examples**

```
CRTCTLLWS  CTLD(MYCTLR)  TYPE(6050)  MODEL(1)  RSRNAME(CTL02)
            INZFILE(*LIBL/MYFILE)  INZMBR(MBR2)
```

This command creates a 6050 Model 1 local work station controller description with the name MYCTLR, and a resource name of CTL02. The source member MBR2, in source file MYFILE, will contain configuration initialization data.

Top

---

## **Error messages**

### \*ESCAPE Messages

#### **CPD2761**

Model not valid for controller type.

#### **CPD2787**

Too many devices attached for controller type.

#### **CPF26BB**

Extended wireless controller member not changed.

#### **CPF26BC**

Extended wireless controller member not displayed.

#### **CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

#### **CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

#### **CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

#### **CPF26B3**

Extended wireless line member not added.

#### **CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

[Top](#)



---

## Create Ctl Desc (Network) (CRTCTLNET)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Controller Description (Network) (CRTCTLNET) creates a controller description for a network controller.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
ONLINE	Online at IPL	*YES, *NO	Optional
LINE	Attached line	<i>Name</i>	Optional
CNNRSPTMR	Connection response timer	1-3600, <b>170</b>	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEV	Attached devices	Values (up to 255 repetitions): <i>Name</i>	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

---

### Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

#### \*YES

The controller is automatically varied on at IPL.

#### \*NO

The controller is not automatically varied on at IPL.

---

## Attached line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

Top

---

## Connection response timer (CNNRSPTMR)

Specifies the amount of time the system will wait before responding to an incoming connection request.

170

The system will wait 170 seconds before responding to an incoming connection request.

*connection-response-timer*

Specify the amount of time the system will wait before responding to an incoming connection request. The valid values range from 1 through 3600 seconds.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

\*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Attached devices (DEV)

Specifies the NAMES of up to 255 devices which are attached to this controller. The device descriptions must already exist.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCTLNET  CTLD(CTL0A)  LINE(LIN01)
```

This command creates a network controller description with the name CTL0A. An existing line, LIN01, is specified as the network line for the controller.

Top

---

## Error messages

### \*ESCAPE Messages

#### **CPF26BB**

Extended wireless controller member not changed.

#### **CPF26BC**

Extended wireless controller member not displayed.

#### **CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

#### **CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

#### **CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

**CPF26B3**

Extended wireless line member not added.

**CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

[Top](#)

## Create Ctl Desc (Retail) (CRTCTLRTL)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (Retail) (CRTCTLRTL) command creates a controller description for a retail controller.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
TYPE	Controller type	3651, 3684, 4680, 4684	Required, Positional 2
MODEL	Controller model	0	Required, Positional 3
LINKTYPE	Link type	*SDLC, *X25, *LAN	Required, Positional 4
ONLINE	Online at IPL	*YES, *NO	Optional
SWITCHED	Switched connection	*NO, *YES	Optional
SNBU	Switched network backup	*NO, *YES	Optional
LINE	Attached nonswitched line	<i>Name</i>	Optional
SWTLINLST	Switched line list	Values (up to 64 repetitions): <i>Name</i>	Optional
MAXFRAME	Maximum frame size	265-1994, 256, 265, 512, 521, 1024, 1033, 1994, *LINKTYPE	Optional
EXCHID	Exchange identifier	00100000-FFFFFFFF	Optional
INLCNN	Initial connection	*DIAL, *ANS	Optional
CNNNBR	Connection number	<i>Character value</i> , *ANY	Optional
ANSNBR	Answer number	*CNNNBR, *ANY	Optional
STNADR	Station address	01-FE	Optional
ADPTADR	LAN remote adapter address	000000000001-FFFFFFFF	Optional
DSAP	LAN DSAP	04, 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
SSAP	LAN SSAP	04, 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
NETLVL	X.25 network level	1980, 1984, 1988	Optional
LGLCHLID	X.25 logical channel ID	<i>Character value</i>	Optional
CNNPWD	X.25 connection password	<i>Character value</i> , *X''	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEV	Attached devices	Values (up to 254 repetitions): <i>Name</i>	Optional
CODE	Character code	*EBCDIC, *ASCII	Optional

Keyword	Description	Choices	Notes
SSCPID	SSCP identifier	000000000001-FFFFFFFFFFFF, <u>050000000000</u>	Optional
PREDIALDLY	Predial delay	0-254, <u>6</u>	Optional
REDIALDLY	Redial delay	0-254, <u>120</u>	Optional
DIALRTY	Dial retry	0-254, <u>2</u>	Optional
SWTDSC	Switched disconnect	<u>*YES</u> , *NO	Optional
POLLPTY	SDLC poll priority	<u>*NO</u> , *YES	Optional
POLLMT	SDLC poll limit	0-4, <u>0</u>	Optional
OUTLMT	SDLC out limit	<u>*POLLMT</u> , 0, 1, 2, 3, 4	Optional
CNNPOLLRTY	SDLC connect poll retry	0-65534, <u>*CALC</u> , *NOMAX	Optional
NDMPOLLTMR	SDLC NDM poll timer	0-3000, <u>*CALC</u>	Optional
LANFRMRTY	LAN frame retry	0-254, <u>*CALC</u>	Optional
LANCNNRTY	LAN connection retry	0-254, <u>*CALC</u>	Optional
LANRSPTMR	LAN response timer	0-254, <u>*CALC</u>	Optional
LANCNTMR	LAN connection timer	0-254, <u>*CALC</u>	Optional
LANACKTMR	LAN acknowledgement timer	0-254, <u>*CALC</u>	Optional
LANINACTMR	LAN inactivity timer	0-255, <u>*CALC</u>	Optional
LANACKFRQ	LAN acknowledgement frequency	0-127, <u>*CALC</u>	Optional
LANMAXOUT	LAN max outstanding frames	1-127, <u>*CALC</u>	Optional
LANACPTY	LAN access priority	0-3, <u>*CALC</u>	Optional
LANWDWSTP	LAN window step	1-127, <u>*NONE</u>	Optional
SWTLINSLCT	X.25 switched line selection	<u>*FIRST</u> , *CALC	Optional
DFTPFSIZE	X.25 default packet size	<i>Element list</i>	Optional
	Element 1: Transmit value	<u>*LIND</u> , 64, 128, 256, 512, 1024, 2048, 4096	
	Element 2: Receive value	<u>*LIND</u> , *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096	
DFTWDSIZE	X.25 default window size	<i>Element list</i>	Optional
	Element 1: Transmit value	1-15, <u>*LIND</u>	
	Element 2: Receive value	1-15, <u>*LIND</u> , *TRANSMIT	
USRGRPID	X.25 user group identifier	<i>Character value</i>	Optional
RVSCRG	X.25 reverse charging	<u>*NONE</u> , *REQUEST, *ACCEPT, *BOTH	Optional
X25FRMRTY	X.25 frame retry	0-21, <u>7</u>	Optional
X25CNNRTY	X.25 connection retry	0-21, <u>7</u>	Optional
X25RSPTMR	X.25 response timer	1-2550, <u>100</u>	Optional
X25CNTMR	X.25 connection timer	1-2550, <u>100</u>	Optional
X25DLYTMR	X.25 delayed connection timer	1-32767, <u>*CALC</u>	Optional
USRFL	User facilities	<i>Character value</i>	Optional
CMNRCYLMT	Recovery limits	Single values: *SYSVAL Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <u>2</u>	
	Element 2: Time interval	0-120, <u>5</u>	
AUT	Authority	<i>Name</i> , <u>*CHANGE</u> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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## Controller description (CTLDD)

This is a required parameter.

Specifies the name of the controller description.

Top

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## Controller type (TYPE)

This is a required parameter.

Specifies the type of controller for this description.

**3651**

This description represents a 3651 controller.

**3684**

This description represents a 3684 controller.

**4680**

This description represents a 4680 controller.

**4684**

This description represents a 4684 controller.

**Note:** For a 4690, specify 4680 for the controller type.

Top

---

## Controller model (MODEL)

This is a required parameter.

Specifies the model number of the controller that is described. This number tells the system which features the controller has.

Top

---

## Link type (LINKTYPE)

Specifies the type of line to which this controller is attached.

This is a required parameter.

**\*SDLC**

This controller is attached to a synchronous data link control (SDLC) line.

### **\*X25**

This controller is attached to an X.25 line.

### **\*LAN**

This controller is attached to a distributed data interface (DDI), Ethernet, or token-ring local area network line.

Top

---

## **Online at IPL (ONLINE)**

Specifies whether this object is automatically varied on at initial program load (IPL).

### **\*YES**

The controller is automatically varied on at IPL.

### **\*NO**

The controller is not automatically varied on at IPL.

Top

---

## **Switched connection (SWITCHED)**

Specifies whether this controller is attached to a switched line, a token-ring network, Ethernet LAN, or an X.25 switched virtual circuit (SVC). \*NO must be specified for APPC controllers attached to a TDLC line.

### **\*NO**

This controller is attached to a nonswitched line. Specify this value for controllers attaching to an X.25 permanent virtual circuit (PVC).

### **\*YES**

This controller is attached to a switched line. Specify this value for controllers attached to an X.25 switched virtual circuit (SVC). Also specify this value for controllers attached to a local area network.

**Note:** If LINKTYPE is \*LAN, the SWITCHED parameter value must be \*YES or must not be specified.

Top



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## Switched network backup (SNBU)

Specifies whether the remote system modem has the switched network backup (SNBU) feature. The backup feature is used to bypass a broken nonswitched (leased line) connection by establishing a switched connection. To activate SNBU, you must change the controller description of the modem from nonswitched to switched by specifying \*YES for the **Activate swt network backup (ACTSNBU)** parameter.

**Note:** If the modem model you are using is an IBM 386x, 586x, or 786x, you should not change the controller description. Instead, manually switch the modem to the unswitched mode, and manually dial the connection.

Both the local and remote modems must support the SNBU feature to perform a valid activation.

**\*NO** The remote system modem does not have the SNBU feature.

**\*YES**

The remote system modem has the SNBU feature.

Top

---

## Attached nonswitched line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

**Note:** The associated line must be varied off before this command is entered. Specify this parameter for controllers attaching to an X.25 permanent virtual circuit (PVC).

Top

---

## Switched line list (SWTLINLST)

Specifies the names of the switched lines to which this controller attaches. The line descriptions must already exist. Up to 64 switched line names can be specified.

*switched-line-name*

Specify the names of up to 64 lines that are connected to this controller. The same line name can be used more than once. For each line name specified, a line description by that name must already exist.

Top

---

## Maximum frame size (MAXFRAME)

Specifies the maximum frame (path information unit (PIU)) size the controller can send or receive. This value is used to calculate the request unit (RU) sizes. Since the maximum PIU size that the controller can send or receive is negotiated at exchange identifier time, the maximum PIU size used at run time may be different. This value matches the corresponding value on the host system.

**\*LINKTYPE**

The frame size is 521 bytes for \*SDLC, 1024 bytes for \*X25, and 1994 bytes for \*LAN.

*maximum-frame-size*

Specify either 521, 1033, or 1994 bytes as the maximum frame size for this controller. Specify 1024 only if linktype is \*X25. Specify 1994 only if linktype is \*LAN.

Top

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## Exchange identifier (EXCHID)

Specifies the exchange identifier of this controller. The controller sends (exchanges) its identifier to another location when a connection is established. The 8-digit hexadecimal identifier contains 3 digits for the block number and 5 digits for the identifier of the specific controller.

Controller	Block Number	Hexadecimal Identifier
3694	02F	xxxxx
4701	057	xxxxx
4702	057	xxxxx
4730	043	xxxxx
4731	043	xxxxx
4732	043	xxxxx
4736	043	xxxxx
*FBSS	000-FFF	xxxxx
3601 (configured as a 4701)	016	xxxxx

Top

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## Initial connection (INLCNN)

Specifies the method used to establish a connection with this controller.

### \*DIAL

The system initiates outgoing calls and answers incoming calls.

### \*ANS

The connection is made by the IBM System i5 when it answers an incoming call from this controller. If a call is received from the remote controller and all necessary conditions are met, the incoming call is answered by the system.

For X.25 connections, the line attached to the controller requires switched virtual circuits (SVCs) configured on the LGLCHLE parameter of type OUT or BOTH(\*SVCOUT or \*SVCBOTH) for the connection to succeed.

The line can be changed using the Change Line Description (X.25) (CHGLINX25) command.

Top

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## Connection number (CNNNBR)

Specifies the telephone number to dial to connect to this controller.

**\*ANY** The system accepts calls from any network address.

Top

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## Answer number (ANSNBR)

Specifies the X.25 network address from which calls are accepted.

**\*CNNNBR**

Calls from the X.25 network address specified on the CNNNBR parameter are accepted.

**\*ANY**

Calls are accepted from any X.25 network address.

Top

---

## Station address (STNADR)

Specifies the station address used when communicating with the controller.

Valid values range from 00 to FE.

**Note:** 00 can be specified only for APPC controllers when \*TDLC is specified for the **Link type (LINKTYPE)** parameter.

**Note:** If \*SEC is specified on the ROLE parameter, this is the station address of the remote controller. If \*PRI or \*NEG is specified on the ROLE parameter, this is the local station address.

Top

---

## LAN remote adapter address (ADPTADR)

Specifies the 12-character adapter address of the remote controller. This is the address to which the system sends data when it communicates with the remote controller. This value can be obtained from the remote controller's configuration record. Valid values range from hex 000000000001 through hex FFFFFFFF.

*adapter-address*

Specify the adapter address of the remote controller.

Top

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## LAN DSAP (DSAP)

Specifies the destination service access point (DSAP). This is the logical address this system will send to when it communicates with the remote controller. This address allows the controller to properly route the data that comes from this system. The default value for the destination service access point is 04.

The value must match the value specified on the source service access point (SSAP) parameter in the remote controller's configuration record.

04

The destination service access point is the default 04.

*destination-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the destination service access point.

Top

---

## LAN SSAP (SSAP)

Specifies the source service access point (SSAP). This is the logical address the local system uses when it sends data to the remote controller. This address allows the controller to properly route the data that comes from the local system. The default value for the source service access point is 04.

It must match the value assigned to the destination service access point (DSAP) in the remote controller's configuration record.

04

The system uses the logical address of 04.

*source-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the source service access point.

Top

---

## X.25 network level (NETLVL)

Specifies the level of the X.25 network used to access this controller. The level is specified by giving the year of the standard used by the X.25 network.

**Note:** Use of the lower value of the remote DTE or the network level is suggested; for example, if the remote DTE is using the CCITT standard of 1980 and the network 1984, specify 1980 for this parameter.

**1980**

The 1980 Standard is used.

**1984**

**522** System i: Programming i5/OS commands Starting with COMMIT (Commit)

The 1984 Standard is used.

1988

The 1988 Standard is used.

Top

---

## X.25 logical channel ID (LGLCHLID)

Specifies the logical channel identifier used for the X.25 permanent virtual circuit (PVC) to this controller. The valid entry is xyy. Where:

- x = the logical group number, derived from your network subscription.
- yy = the logical channel number, derived from your subscription. The logical channel identifier must be one of the PVC logical channel identifiers that was defined in the X.25 line description. There is no default for this parameter.

Top

---

## X.25 connection password (CNNPWD)

Specifies the X.25 network password used for password exchange with the X.24 Call Request and Incoming Call packets (Call User Data field). This parameter is not valid for permanent virtual circuit (PVC) connections.

If you want to use a connection password that consists of characters whose hexadecimal value is less than 40, you must specify the password as a hexadecimal value. When less than 8 bytes are specified, the end of the password field is padded with blanks. A password of all blank is valid. All incoming call requests must match this password to establish a connection.

To specify a hexadecimal password, the digits must be specified in multiples of two, be no more than 16 digits long, be enclosed in apostrophes, and be preceded by an X. For example, X'0102030405' is a valid hexadecimal password.

**Note:** This connection password is highly recommended for controllers that operate with the Enhanced Logical Link Control (ELLC) protocol LINKPCL(\*ELLC) on switched virtual circuit (SVC) connections. This enhanced protocol supports reconnection of virtual circuits after network errors which disconnect the line with a clear signal; however, this reconnection is not allowed to proceed without the password validation procedure being used as a unique identifier for the controller.

### *X.25-connection-password*

Specify the connection password. The password for each controller can consist of any alphanumeric characters represented by the hexadecimal values ranging from 40 through FF.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

The maximum number of devices that can attach to this controller is 14 for a 3651 controller, 2 for a 3684 controller, 84 for a 4680 controller, and 254 for a 4684 controller.

The maximum number of devices that can be active is 14 for a 3651 controller, 2 for a 3684 controller, 40 for a 4680 controller, and 16 for a 4684 controller.

Top

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## Character code (CODE)

Specifies whether the extended binary-coded decimal interchange code (\*EBCDIC) or the American National Standard Code for Information Interchange (\*ASCII) character code is used on the line.

### \*EBCDIC

The extended binary-coded decimal interchange code (EBCDIC) character code is used.

### \*ASCII

The ASCII character code is used.

Top

---

## SSCP identifier (SSCPID)

Specifies the system service control point identifier of the host system.

### 050000000000

The default value for the system service control point identifier.

*system-service-control-point-identifier*

Specify the system service control point identifier as a 12-digit hexadecimal value.

---

## Predial delay (PREDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before dialing a number.

6

The default value of 6 provides a 3-second delay.

### *predial-delay*

Specify a value ranging from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## Redial delay (REDIALDLY)

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

120 The default value of 120 provides a 60-second delay.

### *redial-delay*

Specify a value from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

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## Dial retry (DIALRTY)

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

2 The default number of retries is 2.

### *dial-retry*

Specify a value from 0 to 254 in 0.5-second intervals, for the number of times the dialing will be tried.

Top

---

## Switched disconnect (SWTDSC)

Specifies whether the switched connection to this controller is dropped when the last device is varied off.

\*NO

The switched connection is not dropped when the last device is varied off.

\*YES

The switched connection is varied off when the last device is varied off.

Top

---

## SDLC poll priority (POLLPTY)

Specifies whether this controller has priority when polled. This parameter can be specified only if SHM is \*NO.

\*NO

This controller does not have polling priority.

\*YES

This controller does have polling priority.

Top

---

## SDLC poll limit (POLLMT)

Specifies, for an SDLC secondary or negotiable controller, the number of consecutive polls issued to the same controller when the poll results in receiving frames. This parameter can be specified only if SHM is \*NO.

0

The default number of polls is zero.

*poll limit*

Specify a number of polls. Valid values range from 0 through 4.

Top

---

## SDLC out limit (OUTLMT)

Specifies the number of consecutive times SDLC allows the transmission of the maximum number of frames to a station, before allowing transmission to another station.

\*POLLMT

The value is the same as the one specified for the **SDLC poll limit (POLLMT)** parameter.

*out-limit*

Specify a value ranging from 0 through 4.

Top



---

## SDLC connect poll retry (CNNPOLLRTY)

Specifies the number of times to retry connecting to a controller before reporting an error.

### \*CALC

The number of retries is 7 if the controller is switched, and \*NOMAX if the controller is nonswitched.

### \*NOMAX

The system will retry indefinitely.

### *connect-poll-retry*

Specify a value ranging from 0 to 65534 for the number of retries.

Top

---

## SDLC NDM poll timer (NDMPOLLTMR)

Specifies the minimum interval at which a secondary station should be polled if a poll from the primary to the secondary (which is in normal disconnect mode (NDM)) does not result in receiving the appropriate response.

This parameter is valid only if the link type is \*SDLC and the controller role is secondary or negotiable and \*NO is specified on the SHM parameter.

### \*CALC

The poll interval is calculated by the system.

### *NDM-poll-timer*

Specify a value ranging from 1 to 3000 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN frame retry (LANFRMRTY)

Specifies the number of times to retry a transmission when there is no acknowledgment from the remote controller in the time period specified by the LANRSPTMR parameter. This value is only used after a successful connection has been made.

### \*CALC

The system determines the timer value.

### *LAN-frame-retry*

Specify a value ranging from 0 through 254 for the number of times a frame is transmitted before an acknowledgement is received.

Top

---

## LAN connection retry (LANCNNRTY)

Specifies the number of times a transmission is attempted before an acknowledgement is received. This value is used at connection time (unlike LANFRMRTY which is used after a connection has been made).

### \*CALC

The system determines the timer value.

### *LAN-connection-retry*

Specify a value ranging from 0 through 254 for the number of times the transmission is attempted before an acknowledgement is received.

Top

---

## LAN response timer (LANRSPTMR)

Specifies the time period used to determine an inoperative condition on the link when connected.

### \*CALC

The system determines the timer value.

### *LAN-response-timer*

Specify a value from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN connection timer (LANCNNTMR)

Specifies the time period used to determine an inoperative condition on the link at connection time.

### \*CALC

The system determines the timer value.

### *LAN-connection-timer*

Specify a value ranging from 1 through 254 in 0.1-second intervals for the amount of time the system waits before an inoperative condition occurs. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement timer (LANACKTMR)

Specifies the time interval to delay sending acknowledgements for received frames.

### \*CALC

The system determines the timer value.

#### *LAN-acknowledgement-timer*

Specify a value ranging from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0. If 0 is specified for the **LAN acknowledgement frequency (LANACKFRQ)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKFRQ parameter, a non-zero number must also be specified for this parameter.

Top

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## LAN inactivity timer (LANINACTMR)

Specifies the time period used to determine an inactive condition for the controller.

### \*CALC

The system determines the timer value.

#### *LAN-inactivity-timer*

Specify a value ranging from 1 through 255 in 0.1-second intervals for the length of time used to determine an inactive condition for the controller. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement frequency (LANACKFRQ)

Specifies the maximum number of frames received before sending an acknowledgement to the controller.

### \*CALC

The system determines the LAN acknowledgement frequency value.

#### *LAN-acknowledge-frequency*

Specify a value from 0 to 127 for the number of frames received. If 0 is specified for the **LAN acknowledgement timer (LANACKTMR)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKTMR parameter, a non-zero number must also be specified for this parameter.

Top

---

## LAN max outstanding frames (LANMAXOUT)

Specifies the maximum number of frames that can be sent before an acknowledgement is received from the remote system.

### \*CALC

The system determines the LAN maximum outstanding frames value.

### *LAN-maximum-outstanding-frames*

Specify a value ranging from 1 through 127 for the number of frames that can be sent before an acknowledgement is received.

Top

---

## LAN access priority (LANACCPTY)

Specifies the priority granted to the sending system for sending frames. The larger the number, the higher the priority.

### \*CALC

The system calculates the value to use.

### *LAN-access-priority*

Specify a value from 0 to 3 for the access priority for this controller on a local area network (LAN).

Top

---

## LAN window step (LANWDWSTP)

Specifies whether to reduce to 1 the maximum number of frames outstanding to the remote system during network congestion. This parameter (LAN Window Step) indicates the number of frames that must be successfully received by the remote system before the number of maximum outstanding frames can be increased by 1. The increase continues this way until the maximum number of outstanding frames reaches the value specified by the LAN maximum outstanding frames (LANMAXOUT) parameter.

### \*NONE

The number of outstanding frames is not reduced during network congestion.

### *LAN-window-step*

Specify a value from 1 to 127 for the number of frames that must be successfully received by the remote system before the maximum number of outstanding frames can be increased by 1.

Top

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## X.25 switched line selection (SWTLINSLCT)

Specifies the method that is used to select lines from an X.25 switched line list.

### \*FIRST

Lines are selected beginning with the first line in the switched line list.

### \*CALC

The system determines which line in the switched line list will be selected.

Top

---

## X.25 default packet size (DFTPCKTSIZE)

Specifies the default packet size used by the X.25 network for transmission and reception.

### Element 1: Transmit Packet Size

#### \*LIND

The value specified in the line description is the default value.

*transmit-packet-size*

Specify a default packet size for transmission. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

### Element 2: Receive Packet Size

#### \*LIND

The value specified in the line description is the default value.

#### \*TRANSMIT

The value specified as the default packet size for transmission is used as the default for reception.

*receive-packet-size*

Specify a default packet size for reception. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

Top

---

## X.25 default window size (DFTWDWSIZE)

Specifies the default window size for transmission and reception.

### Element 1: Transmit Window Size

#### \*LIND

The value specified in the line description is used as the default window size.

*transmit-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15. For switched virtual circuit (SVC) incoming calls, the system accepts the window size indicated in the Incoming Call packet facilities field.

### Element 2: Receive Window Size

#### \*LIND

The value specified in the line description is used as the default window size.

#### \*TRANSMIT

The value specified as the default window size for transmission is used as the default for reception.

*receive-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

Top

---

## X.25 user group identifier (USRGRPID)

Specifies the closed user-group ID for contacting this switched virtual circuit (SVC) controller on the X.25 network.

Specify the 2-digit decimal value, from 00 through 99, as provided by the network subscription. This parameter is not valid for permanent virtual circuit (PVC) connections. It is valid only for SVC circuit outgoing call operations and is ignored for SVC incoming call connections.

Top

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## **X.25 reverse charging (RVSCRG)**

Specifies whether reverse charges are accepted or requested when contacting this controller.

### **\*NONE**

No reverse charging for network tariff billing is accepted.

### **\*REQUEST**

Charges are requested on outgoing call request packets.

### **\*ACCEPT**

Reverse charging for network tariff billing is accepted on incoming requests.

### **\*BOTH**

Both incoming and outgoing requests are accepted.

Top

---

## **X.25 frame retry (X25FRMRTY)**

Specifies the maximum number of times a frame is sent after the response timer ends when connected to this controller. The value for this parameter depends on the quality of service provided by the network and the connection to that network; that is, the frequency of lost link protocol data units.

7

The default for the maximum number of transmissions is 7.

### *X.25 frame retry*

Specify a value ranging from 0 through 21 for the number of times a frame is sent.

Top

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## **X.25 connection retry (X25CNNRTY)**

Specifies the maximum number of times that a logical link control (LLC) protocol data unit is sent after the connect response timer expires when connecting to this controller.

7

The default for the maximum number of transmissions is 7.

### *X.25 connection retry*

Specify a value ranging from 0 through 21 for the number times a frame is sent.

---

## X.25 response timer (X25RSPTMR)

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connected to this controller.

### 100

The default amount of time is 10 seconds.

#### *X.25 response-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1-second intervals.

Top

---

## X.25 connection timer (X25CNNTMR)

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connecting to this controller.

### 100

The default amount of time is 10 seconds.

#### *connection-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1 second intervals.

Top

---

## X.25 delayed connection timer (X25DLYTMR)

Specifies the time interval between attempts to establish a connection to the controller.

### \*CALC

Use the values specified for the **X.25 connection timer (X25CNNTMR)** parameter and the **X.25 connection retry (X25CNNRTY)** parameter to determine how often and how many times to try establishing the connection.

#### *X.25-delay-timer*

Specify a value ranging from 1 to 32767 units. Each unit represents 0.1 second. Connection attempts are repeated indefinitely at this time interval.

Top



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## User facilities (USRFCL)

Specifies a string of hexadecimal characters sent to the X.25 network to request additional services. The system allows up to 218 hexadecimal characters.

Top

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## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

### Element 1: Maximum Recovery Limit

2

Two recovery attempts are made within the interval specified.

#### \*SYSVAL

The value in the QCMNRCYLMT system value is used.

#### *count limit*

Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.

### Element 2: Recovery Time Interval

5

The specified number of recovery attempts is made within a 5-minute interval.

#### *time-interval*

Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

More information on communication recovery is in the Communications Management book, SC41-5406.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

#### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can

change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**  
The user cannot access the object.

**\*LIBCRTAUT**  
The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCTLR05  CTLD(CTLR05)  TYPE(3651)  MODEL(0)  LINKTYPE(*SDLC)
            SWITCHED(*YES)  SWTLINLST(SWITCHED1)
            EXCHID(005000005)
            INLCNN(*ANS)  STNADR(E1)  CNNNBR(2553217)
```

This command creates a 3651 Model 0 retail controller description called CTLR05. The controller is on a SDLC switched line at telephone number 255-3217. Connection to the controller is initiated by an incoming call to the IBM System i5.

Top

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## Error messages

### \*ESCAPE Messages

#### **CPF26BB**

Extended wireless controller member not changed.

#### **CPF26BC**

Extended wireless controller member not displayed.

#### **CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

#### **CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

#### **CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

**CPF26B3**

Extended wireless line member not added.

**CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

[Top](#)



## Create Ctl Desc (Remote WS) (CRTCTLRWS)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Controller Description (Remote Work Station) (CRTCTLRWS) command creates a controller description for a remote work station controller. For more information about using this command, see the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
TYPE	Controller type	3174, 3274, 5251, 5294, 5394, 5494, 5594	Required, Positional 2
MODEL	Controller model	0, 1, 0001, 2, 0002, 12, 0012, K01	Required, Positional 3
LINKTYPE	Link type	*LAN, *NONE, *SDLC, *X25	Required, Positional 4
ONLINE	Online at IPL	*YES, *NO	Optional
SWITCHED	Switched connection	*NO, *YES	Optional
SHM	Short hold mode	*NO, *YES	Optional
SNBU	Switched network backup	*NO, *YES	Optional
LINE	Attached nonswitched line	<i>Name</i>	Optional
SWTLINLST	Switched line list	Values (up to 64 repetitions): <i>Name</i>	Optional
MAXFRAME	Maximum frame size	265-1994, 256, 261, 265, 512, 517, 521, 1033, 1994, *LINKTYPE	Optional
RMTLOCNAME	Remote location	<i>Communications name</i>	Optional
LCLLOCNAME	Local location	<i>Communications name</i> , *NETATR	Optional
RMTNETID	Remote network identifier	<i>Communications name</i> , *NETATR, *NONE	Optional
EXCHID	Exchange identifier	00100000-FFFFFFFF	Optional
INLCNN	Initial connection	*DIAL, *ANS	Optional
DIALINIT	Dial initiation	*LINKTYPE, *IMMED, *DELAY	Optional
CNNNBR	Connection number	<i>Character value</i> , *DC, *ANY	Optional
ANSNBR	Answer number	*CNNNBR, *ANY	Optional
CNNLSTOUT	Outgoing connection list	<i>Name</i>	Optional
CNNLSTOUTE	Connection list entry	<i>Name</i>	Optional
SHMDSCLMT	SHM disconnect limit	1-254, <u>10</u> , *NOMAX	Optional
SHMDSCTMR	SHM disconnect timer	2-3000, <u>50</u>	Optional
STNADR	Station address	01-FE	Optional
ADPTADR	LAN remote adapter address	000000000001-FFFFFFFFFFFFFF	Optional

Keyword	Description	Choices	Notes
NETLVL	X.25 network level	1980, 1984, 1988	Optional
LINKPCL	X.25 link level protocol	* <u>QLLC</u> , *ELLC	Optional
LGLCHLID	X.25 logical channel ID	<i>Character value</i>	Optional
CNNPWD	X.25 connection password	<i>Character value, X''</i>	Optional
AUTOCRTDEV	Autocreate device	* <u>ALL</u> , *NONE	Optional
SWTDSC	Switched disconnect	* <u>YES</u> , *NO	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
DEV	Attached devices	Values (up to 254 repetitions): <i>Name</i>	Optional
CODE	Character code	* <u>EBCDIC</u> , *ASCII	Optional
DEVWAITMR	Device wait timer	2-600, <u>120</u>	Optional
SSCPID	SSCP identifier	000000000001-FFFFFFFFFFFF, <u>050000000000</u>	Optional
IDLCWDSIZ	IDLC window size	1-31, * <u>LIND</u>	Optional
IDLCFRMRTY	IDLC frame retry	0-100, * <u>LIND</u>	Optional
IDLCRSPTMR	IDLC response timer	10-100, * <u>LIND</u>	Optional
IDLCCNNRTY	IDLC connect retry	1-100, * <u>LIND</u> , *NOMAX	Optional
PREDIALDLY	Predial delay	0-254, <u>6</u>	Optional
REDIALDLY	Redial delay	0-254, <u>120</u>	Optional
DIALRTY	Dial retry	0-254, <u>2</u>	Optional
POLLPTY	SDLC poll priority	* <u>NO</u> , *YES	Optional
POLLMT	SDLC poll limit	0-4, <u>0</u>	Optional
OUTLMT	SDLC out limit	* <u>POLLMT</u> , 0, 1, 2, 3, 4	Optional
CNNPOLLRTY	SDLC connect poll retry	0-65534, * <u>CALC</u> , *NOMAX	Optional
NDMPOLLTMR	SDLC NDM poll timer	0-3000, * <u>CALC</u>	Optional
DSAP	LAN DSAP	<u>04</u> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
SSAP	LAN SSAP	<u>04</u> , 08, 0C, 10, 14, 18, 1C, 20, 24, 28, 2C, 30, 34, 38, 3C, 40, 44, 48, 4C, 50, 54, 58, 5C, 60, 64, 68, 6C, 70, 74, 78, 7C, 80, 84, 88, 8C, 90, 94, 98, 9C	Optional
LANFRMRTY	LAN frame retry	0-254, * <u>CALC</u>	Optional
LANCNNRTY	LAN connection retry	0-254, * <u>CALC</u>	Optional
LANRSPTMR	LAN response timer	0-254, * <u>CALC</u>	Optional
LANCNTMR	LAN connection timer	0-254, * <u>CALC</u>	Optional
LANACKTMR	LAN acknowledgement timer	0-254, * <u>CALC</u>	Optional
LANINACTMR	LAN inactivity timer	0-255, * <u>CALC</u>	Optional
LANACKFRQ	LAN acknowledgement frequency	0-127, * <u>CALC</u>	Optional
LANMAXOUT	LAN max outstanding frames	1-127, * <u>CALC</u>	Optional
LANACPTY	LAN access priority	0-3, * <u>CALC</u>	Optional
LANWDWSTP	LAN window step	1-127, * <u>NONE</u>	Optional
SWTLINSLCT	X.25 switched line selection	* <u>FIRST</u> , *CALC	Optional
DFTPFSIZE	X.25 default packet size	<i>Element list</i>	Optional
	Element 1: Transmit value	* <u>LIND</u> , 64, 128, 256, 512, 1024, 2048, 4096	
	Element 2: Receive value	* <u>LIND</u> , *TRANSMIT, 64, 128, 256, 512, 1024, 2048, 4096	

Keyword	Description	Choices	Notes
DFTWDWSIZE	X.25 default window size	<i>Element list</i>	Optional
	Element 1: Transmit value	1-15, * <u>LIND</u>	
	Element 2: Receive value	1-15, * <u>LIND</u> , *TRANSMIT	
USRGRPID	X.25 user group identifier	<i>Character value</i>	Optional
RVSCRG	X.25 reverse charging	* <u>NONE</u> , *REQUEST, *ACCEPT, *BOTH	Optional
X25FRMRTY	X.25 frame retry	0-21, <u>7</u>	Optional
X25CNNRTY	X.25 connection retry	0-21, <u>7</u>	Optional
X25RSPTMR	X.25 response timer	1-2550, <u>100</u>	Optional
X25CNNTMR	X.25 connection timer	1-2550, <u>100</u>	Optional
X25DLYTMR	X.25 delayed connection timer	1-32767, * <u>CALC</u>	Optional
X25ACKTMR	X.25 acknowledgement timer	0-2550, <u>20</u>	Optional
X25INACTMR	X.25 inactivity timer	1-2550, <u>350</u>	Optional
USRFCL	User facilities	<i>Character value</i>	Optional
ALCRTYTMR	Allocation retry timer	1-9999, <u>180</u>	Optional
CMNRCYLMT	Recovery limits	Single values: *SYSVAL Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <u>2</u>	
	Element 2: Time interval	0-120, <u>5</u>	
MSGQ	Message queue	Single values: * <u>SYSVAL</u> , *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
AUT	Authority	<i>Name</i> , * <u>CHANGE</u> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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## Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

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## Controller type (TYPE)

This is a required parameter.

Specifies the type of controller for this description.

**3174**

This description represents a 3174 controller.

**3274**

This description represents a 3274 controller.

5251

This description represents a 5251 controller.

5294

This description represents a 5294 controller.

5394

This description represents a 5394 controller.

5494

This description represents a 5494 controller.

[Top](#)

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## Controller model (MODEL)

This is a required parameter.

Specifies the model number of the controller that is described. This number tells the system which features the controller has.

0

The model number for a 3174 or 3274 controller.

1

The model number for a 5294, 5394, or 5494 Model 1 controller.

2

The model number for a 5394 or 5494 Model 2 controller.

12

The model number for a 5251 Model 12 controller.

K01

The model number for a 5294 Model K01 controller.

[Top](#)



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## Link type (LINKTYPE)

Specifies the type of line to which this controller is attached.

This is a required parameter.

### \*LAN

This controller is attached to a Local Area Network (LAN).

### \*NONE

This controller description is not attached to a line.

### \*SDLC

This controller is attached to a synchronous data link control (SDLC) line.

### \*X25

This controller is attached to an X.25 line.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

The controller is automatically varied on at IPL.

### \*NO

The controller is not automatically varied on at IPL.

Top

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## Switched connection (SWITCHED)

Specifies whether this controller is attached to a switched line, a token-ring network, Ethernet LAN, or an X.25 switched virtual circuit (SVC). \*NO must be specified for APPC controllers attached to a TDLC line.

### \*NO

This controller is attached to a nonswitched line. Specify this value for controllers attaching to an X.25 permanent virtual circuit (PVC).

### \*YES

This controller is attached to a switched line. Specify this value for controllers attached to an X.25 switched virtual circuit (SVC). Also specify this value for controllers attached to a local area network.

**Note:** If LINKTYPE is \*LAN, the SWITCHED parameter value must be \*YES or must not be specified.

Top

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## Short hold mode (SHM)

Specifies whether this controller is to be used for X.21 short hold mode. To specify \*YES, you must also specify \*SDLC for the **Link type (LINKTYPE)** parameter, and \*YES for the **Switched connection (SWITCHED)** parameter.

### \*NO

This controller is not used for X.21 short hold mode.

### \*YES

This controller is used for X.21 short hold mode.

Top

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## Switched network backup (SNBU)

Specifies whether the remote system modem has the switched network backup (SNBU) feature. The backup feature is used to bypass a broken nonswitched (leased line) connection by establishing a switched connection. To activate SNBU, you must change the controller description of the modem from nonswitched to switched by specifying \*YES for the **Activate swt network backup (ACTSNBU)** parameter.

**Note:** If the modem model you are using is an IBM 386x, 586x, or 786x, you should not change the controller description. Instead, manually switch the modem to the unswitched mode, and manually dial the connection.

Both the local and remote modems must support the SNBU feature to perform a valid activation.

\*NO The remote system modem does not have the SNBU feature.

### \*YES

The remote system modem has the SNBU feature.

Top

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## Attached nonswitched line (LINE)

Specifies the name of the nonswitched line to which this controller is attached. The line description must already exist.

**Note:** The associated line must be varied off before this command is entered. Specify this parameter for controllers attaching to an X.25 permanent virtual circuit (PVC).

---

## Switched line list (SWTLINLST)

Specifies the names of the switched lines to which this controller attaches. The line descriptions must already exist. Up to 64 switched line names can be specified.

*switched-line-name*

Specify the names of up to 64 lines that are connected to this controller. The same line name can be used more than once. For each line name specified, a line description by that name must already exist.

Top

---

## Maximum frame size (MAXFRAME)

Specifies the maximum frame (path information unit (PIU)) size the controller can send or receive. This value is used to calculate the request unit (RU) sizes. Since the maximum PIU size that the controller can send or receive is negotiated at exchange identifier time, the maximum PIU size used at run time may be different. This value matches the corresponding value on the host system.

### \*LINKTYPE

For a 3174 controller with a link type of \*ISDN, a value of 521 is used. For a 3174 controller with a link type of \*LAN, a value of 1994 is used. For a 3174 controller with a link type of \*SDLC, a value of 265 is used. For a 3174 controller with a link type of \*X25, a value of 256 is used. For a 5394 controller with a link type of \*X25, a value of 512 is used. For a 5394 controller with a link type of \*SDLC, a value of 517 is used.

*maximum-frame-size*

- For a 3174 controller with a link type of \*SDLC or \*X25, specify the value 265.
- For a 5394 controller with a link type of \*X25 line, specify 265 or 521.
- For a 5394 controller with a link type of \*SDLC, specify 261 or 517.

Top

---

## Remote location (RMTLOCNAME)

Specifies the NAME of the remote location associated with the remote system.

Top

---

## Local location (LCLLOCNAME)

Specifies the local location name.

### \*NETATR

The LCLNETID value specified in the system network attributes is used.

### *local-location-name*

Specify the name (8 characters maximum) by which the local system is known to the remote system.

Top

---

## **Remote network identifier (RMTNETID)**

Specifies the NAME of the remote network in which the adjacent control point resides.

### \*NETATR

The LCLNETID value specified in the system network attributes is used.

### \*NONE

No remote network identifier (ID) is used.

### *remote-network-identifier*

Specify the remote network identifier.

Top

---

## **Exchange identifier (EXCHID)**

Specifies the exchange identifier of the controller. The controller sends (exchanges) its identifier to another location when a connection is made. The 8-digit hexadecimal identifier contains 3 digits for the block number and 5 digits for the identifier of the specific controller.

Top

---

## **Initial connection (INLCNN)**

Specifies the method used to establish a connection with this controller.

### \*DIAL

The system initiates outgoing calls and answers incoming calls.

### \*ANS

The connection is made by the IBM System i5 when it answers an incoming call from this controller. If a call is received from the remote controller and all necessary conditions are met, the incoming call is answered by the system.

For X.25 connections, the line attached to the controller requires switched virtual circuits (SVCs) configured on the LGLCHLE parameter of type OUT or BOTH(\*SVCOUT or \*SVCBOTH) for the connection to succeed.

The line can be changed using the Change Line Description (X.25) (CHGLINX25) command.

Top

---

## Dial initiation (DIALINIT)

Specifies the method used to make the initial dial on a switched line between the system and the remote controller.

### \*LINKTYPE

The type of dial connection initiated is specified on the LINKTYPE parameter. For LAN or SDLC short-hold mode connections, the default is to dial the connection as soon as the controller description is varied on. For all other link types, the default is to delay dialing.

### \*IMMED

The dial connection is initiated as soon as the controller description is varied on.

### \*DELAY

The dial connection is delayed until a job is initiated that requests the use of the remote controller resources.

Top

---

## Connection number (CNNNBR)

Specifies the telephone number to dial to connect to this controller.

### \*DC

Direct call is being used in an X.21 circuit switched network.

\*ANY The system accepts calls from any network address.

### *connection-number*

Specify the connection number.

Top

---

## Answer number (ANSNBR)

Specifies the X.25 network address from which calls are accepted.

### \*CNNNBR

Calls from the X.25 network address specified on the CNNNBR parameter are accepted.

### \*ANY

Calls are accepted from any X.25 network address.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## Outgoing connection list (CNLSTOUT)

Specifies, for ISDN switched connections, the name of a connection list object that contains the ISDN assigned numbers for a dial out operation to the ISDN.

*list-object*

Specify the name of a connection list object.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## Connection list entry (CNLSTOUTE)

Specifies, for ISDN switched connections, the entry name from the connection list that is used to make a call to the ISDN. The connection list must have been identified on the **Outgoing connection list (CNLSTOUT)** parameter.

*entry-name*

Specify an entry name.

Top

---

## SHM disconnect limit (SHMDSCLMT)

Specifies the number of consecutive nonproductive responses that are required from the remote station before the connection can be suspended for this X.21 short hold mode connection. This parameter is used only if \*YES is specified for the **Short hold mode (SHM)** parameter, and \*NEG or \*SEC is specified for the **Data link role (ROLE)** parameter.

10

10 consecutive nonproductive responses must be received before the connection can be suspended.

\*NOMAX

There is no disconnect limit.

*SHM-disconnect-limit*

Specify a number from 1 to 254, indicating the number of consecutive nonproductive responses that must be received before the connection can be suspended.

Top

---

## SHM disconnect timer (SHMDSCTMR)

Specifies, in tenths of a second, the minimum length of time that the primary system maintains the connection to the remote system for this X.21 short hold mode controller. This parameter is valid only if \*YES is specified for the **Short hold mode (SHM)** parameter, and \*NEG or \*SEC is specified for the **Data link role (ROLE)** parameter.

50

The primary maintains the connection to the remote system for a minimum of 5 seconds.

*SHM-disconnect-timer*

Specify a value from 2 to 3000 in 0.1 second intervals.

Top

---

## Station address (STNADR)

Specifies the station address used when communicating with the controller.

Valid values range from 00 to FE.

**Note:** 00 can be specified only for APPC controllers when \*TDLC is specified for the **Link type (LINKTYPE)** parameter.

**Note:** If \*SEC is specified on the ROLE parameter, this is the station address of the remote controller. If \*PRI or \*NEG is specified on the ROLE parameter, this is the local station address.

Top

---

## LAN remote adapter address (ADPTADR)

Specifies the 12-character adapter address of the remote controller. This is the address to which the system sends data when it communicates with the remote controller. This value can be obtained from the remote controller's configuration record. Valid values range from hex 000000000001 through hex FFFFFFFF.

*adapter-address*

Specify the adapter address of the remote controller.

Top

---

## X.25 network level (NETLVL)

Specifies the level of the X.25 network used to access this controller. The level is specified by giving the year of the standard used by the X.25 network.

**Note:** Use of the lower value of the remote DTE or the network level is suggested; for example, if the remote DTE is using the CCITT standard of 1980 and the network 1984, specify 1980 for this parameter.

### 1980

The 1980 Standard is used.

### 1984

The 1984 Standard is used.

### 1988

The 1988 Standard is used.

Top

---

## X.25 link level protocol (LINKPCL)

Specifies the link level protocol used on the X.25 network to communicate with this controller.

### \*QLLC

The Qualified Logical Link Control (QLLC) protocol is used.

### \*ELLC

The Enhanced Logical Link Control (ELLC) protocol is used.

Top

---

## X.25 logical channel ID (LGLCHLID)

Specifies the logical channel identifier used for the X.25 permanent virtual circuit (PVC) to this controller. The valid entry is xyy. Where:

- x = the logical group number, derived from your network subscription.
- yy = the logical channel number, derived from your subscription. The logical channel identifier must be one of the PVC logical channel identifiers that was defined in the X.25 line description. There is no default for this parameter.

Top



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## X.25 connection password (CNNPWD)

Specifies the X.25 network password used for password exchange with the X.24 Call Request and Incoming Call packets (Call User Data field). This parameter is not valid for permanent virtual circuit (PVC) connections.

If you want to use a connection password that consists of characters whose hexadecimal value is less than 40, you must specify the password as a hexadecimal value. When less than 8 bytes are specified, the end of the password field is padded with blanks. A password of all blank is valid. All incoming call requests must match this password to establish a connection.

To specify a hexadecimal password, the digits must be specified in multiples of two, be no more than 16 digits long, be enclosed in apostrophes, and be preceded by an X. For example, X'0102030405' is a valid hexadecimal password.

**Note:** This connection password is highly recommended for controllers that operate with the Enhanced Logical Link Control (ELLC) protocol LINKPCL(\*ELLC) on switched virtual circuit (SVC) connections. This enhanced protocol supports reconnection of virtual circuits after network errors which disconnect the line with a clear signal; however, this reconnection is not allowed to proceed without the password validation procedure being used as a unique identifier for the controller.

### *X.25-connection-password*

Specify the connection password. The password for each controller can consist of any alphanumeric characters represented by the hexadecimal values ranging from 40 through FF.

Top

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## Autocreate device (AUTOCRTDEV)

Specifies whether device descriptions can be automatically created for this controller description.

### \*ALL

All dependent devices that can be automatically created for this controller, except APPC devices, are automatically created.

### \*NONE

Dependent devices on this controller are not automatically created.

Top

---

## Switched disconnect (SWTDSC)

Specifies whether the switched connection to this controller is dropped when the last device is varied off.

### \*NO

The switched connection is not dropped when the last device is varied off.

### \*YES

The switched connection is varied off when the last device is varied off.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Attached devices (DEV)

---

### Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

The maximum number of devices that can be specified is 64, but varies for some types of controllers:

#### Controller

##### Maximum number of devices

5251 9

5294 8

5494 56

Top

---

## Character code (CODE)

Specifies whether the extended binary-coded decimal interchange code (\*EBCDIC) or the American National Standard Code for Information Interchange (\*ASCII) character code is used on the line.

### \*EBCDIC

The extended binary-coded decimal interchange code (EBCDIC) character code is used.

### \*ASCII

The ASCII character code is used.

Top

---

## Device wait timer (DEVWAITTMR)

Specifies the device wait timeout value. This is used to limit the amount of time that a subsystem takes for the work station input/output to complete. The timeout value that is used for each device is obtained from the controller that it is attached to at vary on time. A change in this parameter value takes effect for attached devices when they are next varied on.

120

The default amount of time is 120 seconds.

*device-wait-timer*

Specify a value ranging from 2 through 600 that specifies the maximum number of seconds that the subsystem waits for work station input/output to complete for all work stations attached to this controller.

When selecting a value for this parameter, the types of devices attached to the controller should be taken into account. Locally attached work stations should have a low value for this parameter (10 seconds or less).

Top

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## SSCP identifier (SSCPID)

Specifies the system service control point identifier of the host system.

050000000000

The default value for the system service control point identifier.

*system-service-control-point-identifier*

Specify the system service control point identifier as a 12-digit hexadecimal value.

Top

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## IDLC window size (IDLCWDWSIZ)

Specifies the window size for transmission to and reception controllers attached to the IDLC line.

\*LIND

The value specified in the line description is used as the default window size.

*window-size*

Specify the window size. Valid values range from 1 through 31.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## **IDLC frame retry (IDLCFRMRTY)**

Specifies the maximum number of attempts to transmit a frame before reporting an error.

\*LIND

The number of attempts specified in the line description is used.

*IDLC-frame-retry*

Specify a number of attempts. Valid values range from 0 through 100.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## **IDLC response timer (IDLCRSPTMR)**

Specifies the amount of time, in tenths of a second, to wait before retransmitting a frame if acknowledgement has not been received.

\*LIND

The time specified in the line description is used.

*IDLC-response-timer*

Specify an amount of time. Valid values range from 10 through 100 tenths of a second. For example, 100 tenths of a second equals 10 seconds.

**Note:** This parameter is no longer supported. It exists solely for compatibility with releases earlier than Version 5 Release 3 Modification 0 of operating system.

---

## **IDLC connect retry (IDLCCNNRTY)**

Specifies the number of times to attempt retransmission at connection time.

\*LIND

The number of attempts specified in the line description is used.

\*NOMAX

Indicates to continue until a successful transmission has been made.

## *connect-retry*

Specify a number of attempts. Valid values range from 1 through 100.

Top

---

## **Predial delay (PREDIALDLY)**

Specifies the time interval to wait (in 0.5 second intervals) before dialing a number.

6

The default value of 6 provides a 3-second delay.

### *predial-delay*

Specify a value ranging from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## **Redial delay (REDIALDLY)**

Specifies the time interval to wait (in 0.5 second intervals) before re-dialing when the call attempt is unsuccessful.

120 The default value of 120 provides a 60-second delay.

### *redial-delay*

Specify a value from 0 to 254 units. Each unit represents 0.5 second. To indicate no delay, specify a value of 0.

Top

---

## **Dial retry (DIALRTY)**

Specifies the number of re-dial attempts made by the system before considering the dialing unsuccessful.

2 The default number of retries is 2.

### *dial-retry*

Specify a value from 0 to 254 in 0.5-second intervals, for the number of times the dialing will be tried.

Top

---

## **SDLC poll priority (POLLPTY)**

Specifies whether this controller has priority when polled. This parameter can be specified only if SHM is \*NO.

\*NO

This controller does not have polling priority.

\*YES

This controller does have polling priority.

Top

---

## **SDLC poll limit (POLLMT)**

Specifies, for an SDLC secondary or negotiable controller, the number of consecutive polls issued to the same controller when the poll results in receiving frames. This parameter can be specified only if SHM is \*NO.

0

The default number of polls is zero.

*poll limit*

Specify a number of polls. Valid values range from 0 through 4.

Top

---

## **SDLC out limit (OUTLMT)**

Specifies the number of consecutive times SDLC allows the transmission of the maximum number of frames to a station, before allowing transmission to another station.

\*POLLMT

The value is the same as the one specified for the **SDLC poll limit (POLLMT)** parameter.

*out-limit*

Specify a value ranging from 0 through 4.

Top

---

## **SDLC connect poll retry (CNNPOLLRTY)**

Specifies the number of times to retry connecting to a controller before reporting an error.

\*CALC

The number of retries is 7 if the controller is switched, and \*NOMAX if the controller is nonswitched.

\*NOMAX

The system will retry indefinitely.

*connect-poll-retry*

Specify a value ranging from 0 to 65534 for the number of retries.

Top

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## SDLC NDM poll timer (NDMPOLLTMR)

Specifies the minimum interval at which a secondary station should be polled if a poll from the primary to the secondary (which is in normal disconnect mode (NDM)) does not result in receiving the appropriate response.

This parameter is valid only if the link type is \*SDLC and the controller role is secondary or negotiable and \*NO is specified on the SHM parameter.

### \*CALC

The poll interval is calculated by the system.

### *NDM-poll-timer*

Specify a value ranging from 1 to 3000 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN DSAP (DSAP)

Specifies the destination service access point (DSAP). This is the logical address this system will send to when it communicates with the remote controller. This address allows the controller to properly route the data that comes from this system. The default value for the destination service access point is 04.

The value must match the value specified on the source service access point (SSAP) parameter in the remote controller's configuration record.

**Note:** The \*OPC controller uses the value above for this field. The combination of RMTSYSNAME and DSAP defines a unique controller. This allows multiple controllers to exist between two systems.

### 04

The destination service access point is the default 04.

### *destination-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the destination service access point.

Top

---

## LAN SSAP (SSAP)

Specifies the source service access point (SSAP). This is the logical address the local system uses when it sends data to the remote controller. This address allows the controller to properly route the data that comes from the local system. The default value for the source service access point is 04.

It must match the value assigned to the destination service access point (DSAP) in the remote controller's configuration record.

## 04

The system uses the logical address of 04.

### *source-service-access-point*

Specify a hexadecimal value ranging from 04 through 9C, in increments of 4 (for example, 04, 08, 0C, 10) to represent the source service access point.

Top

---

## **LAN frame retry (LANFRMRTY)**

Specifies the number of times to retry a transmission when there is no acknowledgment from the remote controller in the time period specified by the LANRSPTMR parameter. This value is only used after a successful connection has been made.

### \*CALC

The system determines the timer value.

### *LAN-frame-retry*

Specify a value ranging from 0 through 254 for the number of times a frame is transmitted before an acknowledgement is received.

Top

---

## **LAN connection retry (LANCNNRTY)**

Specifies the number of times a transmission is attempted before an acknowledgement is received. This value is used at connection time (unlike LANFRMRTY which is used after a connection has been made).

### \*CALC

The system determines the timer value.

### *LAN-connection-retry*

Specify a value ranging from 0 through 254 for the number of times the transmission is attempted before an acknowledgement is received.

Top



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## LAN response timer (LANRSPTMR)

Specifies the time period used to determine an inoperative condition on the link when connected.

\*CALC

The system determines the timer value.

*LAN-response-timer*

Specify a value from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0.

Top

---

## LAN connection timer (LANCNNTMR)

Specifies the time period used to determine an inoperative condition on the link at connection time.

\*CALC

The system determines the timer value.

*LAN-connection-timer*

Specify a value ranging from 1 through 254 in 0.1-second intervals for the amount of time the system waits before an inoperative condition occurs. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement timer (LANACKTMR)

Specifies the time interval to delay sending acknowledgements for received frames.

\*CALC

The system determines the timer value.

*LAN-acknowledgement-timer*

Specify a value ranging from 1 to 254 units. Each unit represents 0.1 second. To indicate no timer, specify 0. If 0 is specified for the **LAN acknowledgement frequency (LANACKFRQ)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKFRQ parameter, a non-zero number must also be specified for this parameter.

Top

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## LAN inactivity timer (LANINACTMR)

Specifies the time period used to determine an inactive condition for the controller.

### \*CALC

The system determines the timer value.

### *LAN-inactivity-timer*

Specify a value ranging from 1 through 255 in 0.1-second intervals for the length of time used to determine an inactive condition for the controller. To indicate no timer, specify 0.

Top

---

## LAN acknowledgement frequency (LANACKFRQ)

Specifies the maximum number of frames received before sending an acknowledgement to the controller.

### \*CALC

The system determines the LAN acknowledgement frequency value.

### *LAN-acknowledge-frequency*

Specify a value from 0 to 127 for the number of frames received. If 0 is specified for the **LAN acknowledgement timer (LANACKTMR)** parameter, 0 must also be specified for this parameter. If a non-zero number is specified for the LANACKTMR parameter, a non-zero number must also be specified for this parameter.

Top

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## LAN max outstanding frames (LANMAXOUT)

Specifies the maximum number of frames that can be sent before an acknowledgement is received from the remote system.

### \*CALC

The system determines the LAN maximum outstanding frames value.

### *LAN-maximum-outstanding-frames*

Specify a value ranging from 1 through 127 for the number of frames that can be sent before an acknowledgement is received.

Top

---

## LAN access priority (LANACCPTY)

Specifies the priority used for accessing the remote controller. The larger the number the higher the priority for this controller. This parameter is only used when the controller attaches to TRLAN.

### \*CALC

The system determines the LAN access priority value.

### *LAN-access-priority*

Specify a value from 0 to 3 for the access priority for this controller on a local area network (LAN).

Top

---

## LAN window step (LANWDWSTP)

Specifies whether to reduce to 1 the maximum number of frames outstanding to the remote system during network congestion. This parameter (LAN Window Step) indicates the number of frames that must be successfully received by the remote system before the number of maximum outstanding frames can be increased by 1. The increase continues this way until the maximum number of outstanding frames reaches the value specified by the LAN maximum outstanding frames (LANMAXOUT) parameter.

### \*NONE

The number of outstanding frames is not reduced during network congestion.

### *LAN-window-step*

Specify a value from 1 to 127 for the number of frames that must be successfully received by the remote system before the maximum number of outstanding frames can be increased by 1.

Top

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## X.25 switched line selection (SWTLINSLCT)

Specifies the method that is used to select lines from an X.25 switched line list.

### \*FIRST

Lines are selected beginning with the first line in the switched line list.

### \*CALC

The system determines which line in the switched line list will be selected.

Top

---

## X.25 default packet size (DFTPKTSIZE)

Specifies the default packet size used by the X.25 network for transmission and reception.

### Element 1: Transmit Packet Size

\*LIND

The value specified in the line description is the default value.

*transmit-packet-size*

Specify a default packet size for transmission. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

### Element 2: Receive Packet Size

\*LIND

The value specified in the line description is the default value.

\*TRANSMIT

The value specified as the default packet size for transmission is used as the default for reception.

*receive-packet-size*

Specify a default packet size for reception. The valid values for the packet size are 64, 128, 256, 512, 1024, 2048, and 4096.

Top

---

## X.25 default window size (DFTWDWSIZE)

Specifies the default window size for transmission and reception.

### Element 1: Transmit Window Size

\*LIND

The value specified in the line description is used as the default window size.

*transmit-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15. For switched virtual circuit (SVC) incoming calls, the system accepts the window size indicated in the Incoming Call packet facilities field.

### Element 2: Receive Window Size

\*LIND

The value specified in the line description is used as the default window size.

**\*TRANSMIT**

The value specified as the default window size for transmission is used as the default for reception.

*receive-window-size*

Specify the appropriate default window size. If you specified modulus 8, valid values range from 1 through 7. If you specified modulus 128, valid values range from 1 through 15.

Top

---

## **X.25 user group identifier (USRGRPID)**

Specifies the closed user-group ID for contacting this switched virtual circuit (SVC) controller on the X.25 network.

Specify the 2-digit decimal value, from 00 through 99, as provided by the network subscription. This parameter is not valid for permanent virtual circuit (PVC) connections. It is valid only for SVC circuit outgoing call operations and is ignored for SVC incoming call connections.

Top

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## **X.25 reverse charging (RVSCRG)**

Specifies whether reverse charges are accepted or requested when contacting this controller.

**\*NONE**

No reverse charging for network tariff billing is accepted.

**\*REQUEST**

Charges are requested on outgoing call request packets.

**\*ACCEPT**

Reverse charging for network tariff billing is accepted on incoming requests.

**\*BOTH**

Both incoming and outgoing requests are accepted.

Top

---

## **X.25 frame retry (X25FRMRTY)**

Specifies the maximum number of times a frame is sent after the response timer ends when connected to this controller. The value for this parameter depends on the quality of service provided by the network and the connection to that network; that is, the frequency of lost link protocol data units.

7

The default for the maximum number of transmissions is 7.

### *X.25 frame retry*

Specify a value ranging from 0 through 21 for the number of times a frame is sent.

Top

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## **X.25 connection retry (X25CNNRTY)**

Specifies the maximum number of times that a logical link control (LLC) protocol data unit is sent after the connect response timer expires when connecting to this controller.

7

The default for the maximum number of transmissions is 7.

### *X.25 connection retry*

Specify a value ranging from 0 through 21 for the number times a frame is sent.

Top

---

## **X.25 response timer (X25RSPTMR)**

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connected to this controller.

300

The time allowed to return an acknowledgment is 30 seconds.

### *X.25 response-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1-second intervals.

Top

---

## X.25 connection timer (X25CNNTMR)

Specifies the time period allowed to return an acknowledgement when an LLC protocol data unit is sent while connecting to this controller.

100

The default amount of time is 10 seconds.

*connection-timer*

Specify an amount of time in tenths of a second. Valid values range from 1 through 2550 in 0.1 second intervals.

Top

---

## X.25 delayed connection timer (X25DLYTMR)

Specifies the time interval between attempts to establish a connection to the controller.

\*CALC

Use the values specified for the **X.25 connection timer (X25CNNTMR)** parameter and the **X.25 connection retry (X25CNNRTY)** parameter to determine how often and how many times to try establishing the connection.

*X.25-delay-timer*

Specify a value ranging from 1 to 32767 units. Each unit represents 0.1 second. Connection attempts are repeated indefinitely at this time interval.

Top

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## X.25 acknowledgement timer (X25ACKTMR)

Specifies the amount of time to delay sending acknowledgements for received frames.

20

The time allowed to delay sending an acknowledgment is 2 seconds.

*X.25-acknowledgment-timer*

Valid values range from 1 to 2550 in 0.1 second intervals, or 0 to indicate no delay.

Top

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## X.25 inactivity timer (X25INACTMR)

Specifies the time period used to determine an inactive condition for the controller. Valid values range from 1 to 2550 in 0.1 second intervals.

350

The time period used to determine an inactive condition for the controller is 3.5 seconds.

Top

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## User facilities (USRFCL)

Specifies a string of hexadecimal characters sent to the X.25 network to request additional services. The system allows up to 218 hexadecimal characters.

Top

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## Allocation retry timer (ALCRTYTMR)

Specifies the length of time, in seconds, the system waits between attempts to establish an LU6.2 session.

180

The system waits 180 seconds between attempts.

**1-9999**

Specify a length of time ranging from 1 through 9999 seconds.

Top

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## Recovery limits (CMNRCYLMT)

Specifies the number of recovery attempts made by the system before an inquiry message is sent to the system operator. Also specifies the time (in minutes) that must elapse before the system sends an inquiry message to the system operator indicating that the recovery attempt count limit is reached.

### Element 1: Maximum Recovery Limit

2

Two recovery attempts are made within the interval specified.

**\*SYSVAL**

The value in the QCMNRCYLMT system value is used.

*count limit*

Specify the number of second-level recovery attempts to be made. Valid values range from 0 through 99.



## Element 2: Recovery Time Interval

5

The specified number of recovery attempts is made within a 5-minute interval.

*time-interval*

Specify the time interval (in minutes) at which the specified number of second-level recoveries are attempted. Valid values range from 0 through 120. If the value specified for *count-limit* is not 0, the value 0 specifies infinite recovery.

More information on communication recovery is in the Communications Management book, SC41-5406.

Top

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## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

### \*SYSVAL

Messages are sent to the message queue defined in the QCFGMSGQ system value.

### \*SYSOPR

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

### Qualifier 1: Message queue

*name* Specify the name of the message queue to which operational messages are sent.

### Qualifier 2: Library

*name* Specify the name of the library where the message queue is located.

For more information about using this command, see the Communications Management book, SC41-5406.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file.

The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

#### **\*EXCLUDE**

The user cannot access the object.

#### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## **Examples**

```
CRTCTLRWS  CTLD(CTL005)  TYPE(5294)  MODEL(1)  LINKTYPE(*SDLC)
            SWITCHED(*YES)  EXCHID(04500003)
            INLCNN(*ANS)  STNADR(03)
            CNNBR(5551234)  TEXT('Chicago branch')
```

This command creates a 5294 Model 1 remote controller description called CTL005. The controller is on a SDLC switched line at telephone number 555-1234. Connection to the controller is initiated by an incoming call to the IBM System i5.

Top

---

## **Error messages**

### **\*ESCAPE Messages**

#### **CPF26BB**

Extended wireless controller member not changed.

#### **CPF26BC**

Extended wireless controller member not displayed.

#### **CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

#### **CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

#### **CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

#### **CPF26B3**

Extended wireless line member not added.

#### **CPF26B4**

Extended wireless line member not changed.

#### **CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

[Top](#)



---

## Create Ctl Desc (Tape) (CRTCTLTAP)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Controller Description (Tape) (CRTCTLTAP) command creates a controller description for a tape controller.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Key, Positional 1
TYPE	Controller type	<i>Character value, *RSRCNAME</i>	Optional, Key, Positional 2
MODEL	Controller model	<i>Character value, *RSRCNAME</i>	Optional, Key, Positional 3
RSRCNAME	Resource name	<i>Name, *NONE</i>	Optional, Key, Positional 4
ONLINE	Online at IPL	<i>*YES, *NO</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
DEV	Attached devices	Values (up to 8 repetitions): <i>Name</i>	Optional
AUTOCFG	Auto-configuration controller	<i>*NO, *YES</i>	Optional
AUT	Authority	<i>Name, *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT</i>	Optional

Top

---

### Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

---

### Controller type (TYPE)

This is a required parameter.

Specifies the type of controller for this description.

\*RSRCNAME

The device model is determined from the resource name parameter.

**Note:** This parameter is ignored, but can be specified for compatibility with earlier versions of the command.

Top

---

## Controller model (MODEL)

This is a required parameter.

Specifies the model number of the controller that is described. This number tells the system which features the controller has.

### \*RSRCNAME

The device model is determined from the resource name parameter.

**Note:** This parameter is ignored, but can be specified for compatibility with earlier versions of the command.

Top

---

## Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware this description represents. Use the WRKHDWRSC command to determine the resource name.

### \*NONE

No resource name is specified at this time. A resource name must be provided before the device can be varied on.

*resource-name*

Specify the name to identify the physical devices on the system. Use the Work with Hardware Resources (WRKHDWRSC) command with \*STG specified for the TYPE parameter to help determine the resource name.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

The controller is automatically varied on at IPL.

### \*NO

The controller is not automatically varied on at IPL.

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

The maximum number of devices that can attach to this controller is 4 for a 3422 or 3430 controller, 8 for a 3480 or 3490 controller.

Top

---

## Auto-configuration controller (AUTOCFG)

Specifies whether this controller description is the one which should have devices attached when they are automatically configured. Although there can be more than one controller description for each controller, only one description can be an automatic configuration controller. When new devices are automatically configured on that controller, they are attached to the automatic configuration controller description.

### \*NO

This is not an automatic configuration controller.

### \*YES

This is an automatic configuration controller.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can

change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**  
The user cannot access the object.

**\*LIBCRTAUT**  
The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCTLTAP  CTLD(TAP01)  TYPE(3422)  MODEL(A01)  SRCNAME(TAP01)
```

This command creates a controller description named TAP01 for a 3422 tape controller.

Top

---

## Error messages

### \*ESCAPE Messages

**CPF26BB**  
Extended wireless controller member not changed.

**CPF26BC**  
Extended wireless controller member not displayed.

**CPF26BD**  
Entry for barcode group not removed from extended wireless controller member.

**CPF26BE**  
Entry for PTC group not removed from extended wireless controller member.

**CPF26BF**  
Program QZXCINZ terminated abnormally. See previous messages.

**CPF26B3**  
Extended wireless line member not added.



**CPF26B4**

Extended wireless line member not changed.

**CPF26B5**

Extended wireless line member not displayed.

**CPF26B8**

Extended wireless controller member not added.

**CPF2716**

Controller description &1 not created.

[Top](#)



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## Create Ctl Desc (Virtual WS) (CRTCTLVWS)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Controller Description (Virtual Work Station) (CRTCTLVWS) command creates a controller description for a virtual work station (pass-through) controller. For more information about using this command, see the Communications Configuration book, SC41-5401.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

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### Parameters

Keyword	Description	Choices	Notes
CTLD	Controller description	<i>Name</i>	Required, Positional 1
ONLINE	Online at IPL	<b>*YES</b> , *NO	Optional
TEXT	Text 'description'	<i>Character value</i> , <b>*BLANK</b>	Optional
DEV	Attached devices	Values (up to 255 repetitions): <i>Name</i>	Optional
DEVWAITTMR	Device wait timer	2-120, <b>20</b>	Optional
MSGQ	Message queue	Single values: <b>*SYSVAL</b> , *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i>	
AUT	Authority	<i>Name</i> , <b>*CHANGE</b> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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### Controller description (CTLD)

This is a required parameter.

Specifies the name of the controller description.

Top

---

### Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**\*YES**

The controller is automatically varied on at IPL.

**\*NO**

The controller is not automatically varied on at IPL.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Attached devices (DEV)

Specifies the names of the devices that are attached to this controller. The device descriptions must already exist.

A maximum of 255 devices can be specified.

Top

---

## Device wait timer (DEVWAITTMR)

Specifies the device wait timeout value. This is used to limit the amount of time that a subsystem takes for the work station input/output to complete. The timeout value that is used for each device is obtained from the controller that it is attached to at vary on time. A change in this parameter value takes effect for attached devices when they are next varied on.

### 20

The default amount of time is 20 seconds.

*device-wait-timer*

Specify a value ranging from 2 through 600 that specifies the maximum number of seconds that the subsystem waits for work station input/output to complete for all work stations attached to this controller.

When selecting a value for this parameter, the types of devices attached to the controller should be taken into account. Locally attached work stations should have a low value for this parameter (10 seconds or less).

Top

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## Message queue (MSGQ)

Specifies the message queue to which operational messages are sent.

### \*SYSVAL

Messages are sent to the message queue defined in the QCFGMSGQ system value.

### \*SYSOPR

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

### Qualifier 1: Message queue

*name* Specify the name of the message queue to which operational messages are sent.

### Qualifier 2: Library

*name* Specify the name of the library where the message queue is located.

For more information about using this command, see the Communications Management book, SC41-5406.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTCTLVWS CTLD(VRTCTL325) TEXT('S/325 virtual controller')
```

This command creates a controller description named VRTCTL325.

[Top](#)

---

## Error messages

### \*ESCAPE Messages

#### **CPF26BB**

Extended wireless controller member not changed.

#### **CPF26BC**

Extended wireless controller member not displayed.

#### **CPF26BD**

Entry for barcode group not removed from extended wireless controller member.

#### **CPF26BE**

Entry for PTC group not removed from extended wireless controller member.

#### **CPF26BF**

Program QZXCINZ terminated abnormally. See previous messages.

#### **CPF26B3**

Extended wireless line member not added.

#### **CPF26B4**

Extended wireless line member not changed.

#### **CPF26B5**

Extended wireless line member not displayed.

#### **CPF26B8**

Extended wireless controller member not added.

#### **CPF2716**

Controller description &1 not created.

[Top](#)

# Create DDM File (CRTDDMF)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create Distributed Data Management File (CRTDDMF) command creates a distributed data management (DDM) file.

A DDM file is used as a reference file to access a file located on a remote (target) system in the distributed data management network. The DDM file on the local system contains the name of the remote file and information identifying the remote system. It also specifies the method used to access the records in the remote file.

Top

## Parameters

Keyword	Description	Choices	Notes
FILE	DDM file	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: DDM file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
RMFILE	Remote file	<i>Element list</i>	Required, Positional 2
	Element 1: File	Single values: *NONSTD Other values: <i>Qualified object name</i>	
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
	Element 2: Nonstandard file 'name'	<i>Character value</i>	
RMTLOCNAME	Remote location	Single values: *RDB Other values: <i>Element list</i>	Required, Positional 3
	Element 1: Name or address	<i>Character value</i>	
	Element 2: Type	<i>*SNA, *IP</i>	
RDB	Relational database	<i>Name</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
DEV	Device	<i>Element list</i>	Optional
	Element 1: APPC device description	<i>Name, *LOC</i>	
LCLLOCNAME	Local location	<i>Communications name, *LOC, *NETATR</i>	Optional
MODE	Mode	<i>Communications name, *NETATR</i>	Optional
RMTNETID	Remote network identifier	<i>Communications name, *LOC, *NETATR, *NONE</i>	Optional
PORT	Port number	1-65535, <i>*DRDA</i>	Optional
ACCMTH	Access method	Single values: <i>*RMFILE, *COMBINED</i> Other values: <i>Element list</i>	Optional
	Element 1: Remote file attribute	<i>*KEYED, *ARRIVAL</i>	
	Element 2: Local access method	<i>*BOTH, *RANDOM, *SEQUENTIAL</i>	
SHARE	Share open data path	<i>*NO, *YES</i>	Optional

Keyword	Description	Choices	Notes
PTCCNV	Protected conversation	*NO, *YES	Optional
LVLCHK	Record format level check	*RMTRFILE, *NO	Optional
AUT	Authority	Name, *LIBCRTAUT, *ALL, *CHANGE, *EXCLUDE, *USE	Optional
REPLACE	Replace file	*YES, *NO	Optional

Top

---

## DDM file (FILE)

Specifies the DDM file to be created.

This is a required parameter.

### Qualifier 1: DDM file

*name* Specify the name of the DDM file to be created.

### Qualifier 2: Library

#### \*CURLIB

The current library for the job is used to locate the DDM file. If no current library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the DDM file is located.

Top

---

## Remote file (RMTRFILE)

Specifies the name of the remote file as it is coded on the target system. This file name must be specified in code page 500. The remote file does not need to exist when the Distributed Data Management (DDM) file is created.

This is a required parameter.

### Element 1: File

#### Single values

#### \*NONSTD

The remote file name is not at standard System i5 file name. Specify the complete file name in apostrophes for the second element of this parameter.

#### Qualifier 1: File

*name* Specify the name of the remote file as it is known on the remote system. If the remote system is a System i5, specify the file name. The file name can be up to 10 characters in length. If the remote system is a System/36, the file name is the same as its System/36 file label. The file name can be up to eight characters in length. If the remote system is a System/38, a simple (unqualified) file name can be specified. The file name can be up to 10 characters in length. Labels for all other remote systems (including qualified file names for System/38) must use \*NONSTD followed by the remote file name in apostrophes.



### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the job is used to locate the file. If no library is specified as the current library for the job, QGPL is used.

*name* Specifies the library where the file is located.

**Note:** The library name is used only if the target system is a System i5. If \*CURLIB is specified, the current library in the called job on the target system is searched to locate the file. If \*LIBL is specified, the library list in the called job on the target system is searched to locate the file.

### Element 2: Nonstandard file 'name'

#### *character-value*

For target systems that allow naming conventions other than those used by the System i5 and System/36, and when specifying a qualified System/38 file name and when specifying a *member* name of a remote System i5 or System/38 file, specify up to 255 characters for the name of the remote file to be accessed. The name must be coded in the form required by the target system. The name must always be enclosed in apostrophes, and may contain lowercase letters, blanks, periods, or any other special characters.

Names for the System i5, System/38, and System/36 must be in uppercase, and no blanks are allowed.

If the target system is a System i5 or a System/38, a file name, library name, and member name can all be specified. If a member name is specified, the full file name must be enclosed in apostrophes and must follow the value \*NONSTD, and the member name must be enclosed in parentheses and immediately follow (with no space) either the library name (System/38) or the file name (System i5).

Top

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## Remote location (RMTLOCNAME)

Specifies the remote (target) system location name or address used with the distributed data management (DDM) file. The remote location name or address does not have to be defined before the DDM file is created, but it must be defined before the DDM file is opened. Multiple DDM files can use the same remote location for the target system.

This is a required parameter.

### Single values

**\*RDB** The remote location information from the relational database entry specified for the **Relational database (RDB)** parameter is used to determine the remote system.

### Element 1: Name or address

#### *character-value*

Specify the name or address of the remote location that is associated with the target system. The remote location, which is used in accessing the target system, does not need to exist when the DDM file is created but must exist when the DDM file is opened. The remote location can take several forms:

- SNA remote location name (LU name). Specify a maximum of 8 characters for the remote location name. If this form is used, the address type of this parameter must be \*SNA (the default).
- SNA remote network identifier and remote location name separated by a period. Specify a maximum of 8 characters for the remote location name, and a maximum of 8 characters for the remote network identifier. If this form of the parameter is used, the address type of this parameter must be \*SNA (the default), and any value specified for the RMTNETID parameter must agree. If the RMTNETID parameter is not specified, the RMTNETID value will be set to agree with the RMTLOCNAME parameter.
- IP address in dotted decimal form. Specify an internet protocol version 4 address in the form nnn.nnn.nnn.nnn where each nnn is a number in the range 0 through 255. If this form is used, the address type of this parameter must be specified as \*IP.
- IP address in colon hexadecimal form. Specify an internet protocol version 6 address in the form xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx:xxxx where each xxxx is a hex number in the range 0 through FFFF. If this form is used, the address type of this parameter must be specified as \*IP. IP version 6 includes the IPv4-mapped IPv6 address form (for example, :FFFF:1.2.3.4). For IP version 6, the compressed form of the address is allowed.
- IP host domain name. Specify an internet host domain name of up to 254 characters in length. If this form is used, the address type of this parameter must be specified as \*IP.

If \*IP is specified for the address type, the DDM server at the remote location must support the use of TCP/IP, and the DEV, LCLLOCNAME, RMTNETID, and MODE parameters will be ignored.

If \*IP is not specified, the DDM server must support SNA connectivity, and the PORT parameter will be ignored.

## Element 2: Type

**\*SNA** The remote location has a Systems Network Architecture (SNA) address type.

**\*IP** The remote location has an Internet Protocol (IP) address type.

More information on remote locations is in the APPC Programming book, SC41-5443.

Top

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## Relational database (RDB)

Specifies the relational database entry that is used to determine the remote location information for the DDM file.

**name** Specify the name of the relational database entry that identifies the target system or target auxiliary storage pool (ASP) group. The relational database name can refer to a remote system or an ASP group that is configured and available on a remote system. The relational database entry does not need to exist when the DDM file is created but must exist when the DDM file is opened. This parameter is required when \*RDB is specified for the **Remote location (RMTLOCNAME)** parameter.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*BLANK**

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Device (DEV)

Specifies the name of the source system communications device that is used with this distributed data management (DDM) file.

This parameter will be ignored if \*IP is specified for the **Remote location (RMTLOCNAME)** parameter.

**\*LOC** The communications device associated with the remote location is used. If several devices can be associated with the remote location, the system determines which device is used.

*name* Specify the name of a communications device that is associated with the remote location. If the device name is not valid for the remote location, an escape message is sent when the DDM file is opened.

Top

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## Local location (LCLLOCNAME)

Specifies the local location name.

This parameter will be ignored if \*IP is specified for the **Remote location (RMTLOCNAME)** parameter.

**\*LOC** The local location name specified for the remote location is used.

**\*NETATR**

The LCLLOCNAME value specified in the system network attributes is used.

*communications-name*

Specifies the name of the local location used with the remote location name. The local location name is only specified to indicate a specific local location for the remote location.

More information on local location names is in the APPC Programming book, SC41-5443.

Top

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## Mode (MODE)

Specifies the mode name that is used with the remote location name to communicate with the remote (target) system.

This parameter will be ignored if \*IP is specified for the **Remote location (RMTLOCNAME)** parameter.

**\*NETATR**

The mode in the network attributes is used.

**BLANK**

A mode name consisting of 8 blank characters is used.

*communications-name*

Specify the name of the mode.

More information on mode names is in the APPC Programming book, SC41-5443.

Top

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## Remote network identifier (RMTNETID)

Specifies the identifier (ID) of the remote network in which the remote location resides. That ID is used to communicate with the remote (target) system.

If this parameter is specified, the **Remote location (RMTLOCNAME)** parameter must be consistent with this RMTNETID parameter. If the RMTLOCNAME parameter specified a network ID, this parameter must agree (otherwise, an error message will be issued). If the RMTLOCNAME parameter does not specify any network ID, there is no possibility of conflict with this parameter.

This parameter will be ignored if \*IP is specified for the RMTLOCNAME parameter.

**\*LOC** The remote network ID specified for the remote location is used.

**\*NETATR**

The remote network identifier specified in the network attributes is used.

**\*NONE**

No remote network ID is used.

*communications-name*

Specify the remote network ID that is used with the remote location name. The remote network ID is specified only to indicate a specific remote network ID for the remote location.

More information on remote network IDs is in the APPC Programming book, SC41-5443.

Top

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## Port number (PORT)

Specifies the TCP/IP port that is used at the remote location to communicate with the system on which the remote file is located.

This parameter will be ignored if \*SNA is specified for the **Remote location (RMTLOCNAME)** parameter.

**\*DRDA**

The DRDA well-known port of 446 will be used. This is the port on which the System i5 DDM TCP/IP server listens.

**1-65535**

Specify the port number to be used.

Top

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## Access method (ACCMTH)

Specifies the DDM access method used to open the remote file and access its records. This parameter is ignored if the remote (target) system is a System/38 or a System i5.

**\*RMTFILE**

The source system selects the access method that is compatible with both the specified remote file and the access methods supported for that file by the remote (target) system. For systems other than the System i5 and System/38 target systems, if this value is used and the source system cannot select an access method when the file is opened, a message is sent to the program user. A different value must then be specified for this parameter, using the CHGDDMF command, after someone at the target system has been contacted about the appropriate access method information for the file.

**\*COMBINED**

The DDM combined access method is used for the remote file. This access method combines the file processing capabilities of both the *combined by key* (\*KEYED \*BOTH) and the *combined by record number* (\*ARRIVAL \*BOTH) access methods. The record can be selected with a key value or a record number. The position can then be set relatively or randomly by key value or by record number. If duplicate keys are present in the file, they are processed in the order defined by each target system's implementation of the DDM architecture.

**Element 1: Remote file attribute**

**\*KEYED**

Remote file is a keyed file.

**\*ARRIVAL**

Remote file is a non-keyed file.

**Element 2: Local access method**

**\*BOTH**

Remote file allows both sequential and random record access.

**\*RANDOM**

Remote file allows random record access.

**\*SEQUENTIAL**

Remote file allows sequential record access.

**Determining the Access Method**

The two elements of this parameter indicate the access method to be used to access the remote file. The following table shows the combinations of values for the ACCMTH parameter. The remote file attributes (in the far left column) refer to the type of file on the target system. The local access method (in the last three columns) refers to the way in which the source System i5 program intends to access the records in the remote file.

**Table 1. Figure: Access Method Combinations of Values**

Remote File Attributes	Local Access Method		
	*SEQUENTIAL	*RANDOM	*BOTH
*ARRIVAL	Relative by record number	Random by record number	Combined by record number
*KEYED	Relative by key	Random by key	Combined by key

**Relative by record number access method (\*ARRIVAL \*SEQUENTIAL):**

This method allows access to records relative to the current position in record number sequence. The record number is not specified to identify the record.

**Random by record number access method (\*ARRIVAL \*RANDOM):**

This method allows access to records by specifying a record number in a random sequence determined by the requester.

**Combined by record number access method (\*ARRIVAL \*BOTH):**

This method combines the capabilities of the relative by record number and random by record number access methods.

**Relative by key access method (\*KEYED \*SEQUENTIAL):**

This method allows records in a keyed file accessed in key value sequence. Records can be accessed by moving forward or backwards in key sequence from the current record. The key value is not specified to identify the record.

**Random by key access method (\*KEYED \*RANDOM):**

This method allows records in a keyed file accessed in a random sequence. Records are selected by their key value and not their position in the file.

**Combined by key access method (\*KEYED \*BOTH):**

This method combines the capabilities of the relative by key and random by key access methods.

Top

---

## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

- \*NO** The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.
- \*YES** The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

Top

---

## Protected conversation (PTCCNV)

Specifies whether the DDM conversation that is started for the DDM file is a protected conversation or not. A **protected conversation** is a conversation that uses two-phase commit protocols to ensure, even if a failure occurs, updates made on the remote system are synchronized with updates to other remote or local resources. A protected conversation is required to use two-phase commitment control with DDM. More information on using two-phase commitment control with DDM is in the Distributed database programming topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>. PTCCNV(\*NO) must be specified if \*IP is specified for the **Remote location (RMTLOCNAME)** parameter.

- \*NO** The DDM conversation started, using this DDM file, is not a protected conversation.
- \*YES** The DDM conversation started, using this DDM file, is a protected conversation. Two-phase commitment control can be used with this DDM file.

Top

---

## Record format level check (LVLCHK)

Specifies whether the level identifiers of the record formats in the remote file are checked when the DDM file is opened by a program. If so, the record format identifiers in the program must match those in the remote file. If they do not match, an error message is sent to the requesting program and neither the DDM file nor the associated remote file is opened. Files that have an error while being opened are automatically closed. This parameter can be overridden by an Override with Database File (OVRDBF) command before the remote file is opened.

**\*RMTFILE**

The level identifiers of the record formats of the remote file (identified in the RMTFILE parameter) are checked at the time the DDM file is opened.

If the target system is *not* a System i5 and not a System/38, the source System i5 creates a level check value based on the record length of the remote file and any key fields used in it. The created values are then compared to the values in the program, and they must match before the remote file can be opened. This reduces the chances of the wrong file being selected.

**Note:** Before this can be done for a system other than an System i5 or a System/38, the program must be compiled (or recompiled) using the DDM file. During the compilation, the DDM file is used to establish communications with the target system, get the remote file's attributes from the target system, and generate the level identifier values so they can be included in the compiled program for later level checking.

**\*NO** The level identifiers are not checked when the file is opened.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

**Note:** On the *target* system, the authority needed to access the remote file is also checked by using the user profile of the started job on the target system.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

**name** Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

---

## Replace file (REPLACE)

Specifies whether an existing file, other than a save or database file, is replaced.



**\*YES** An existing file is replaced if the creation of a new DDM file with the same name and library is successful.

**\*NO** The creation of a new DDM file is not allowed if there is an existing file with the same name and library.

Top

---

## Examples

The following examples describe the creation of a DDM file.

### Example 1: Creating a DDM File to Access a File at Another System i5

```
CRTDDMF FILE(SOURCE/SALES) RMTFILE(REMOTE/SALES)
        RMTLOCNAME(NEWYORK)
```

This command creates a DDM file named SALES, and stores it in the SOURCE library on the source system. This DDM file uses the remote location named NEWYORK to access a remote file named SALES stored in the REMOTE library on an System i5 in New York.

### Example 2: Creating a DDM File to Access a File Member at Another IBM System i5

```
CRTDDMF FILE(SOURCE/SALES) RMTLOCNAME(NEWYORK)
        RMTFILE(*NONSTD 'REMOTE/SALES(APRIL)')
```

This command creates the same file as in the previous example, except that now it accesses a specific member in the remote SALES file; the member is named APRIL.

### Example 3: Creating a DDM File to Access a File on a System/38

```
CRTDDMF FILE(OTHER/SALES) RMTLOCNAME(CHICAGO)
        RMTFILE(*NONSTD 'PAYROLL.REMOTE')
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location CHICAGO is used by the DDM file to access a remote file named PAYROLL in library REMOTE on a System/38.

### Example 4: Creating a DDM File to Access a File on a System/36

```
CRTDDMF FILE(OTHER/SALES) RMTFILE(PAYROLL)
        RMTLOCNAME(DENVER) LVLCHK(*NO)
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location DENVER is used by the DDM file to access a remote file named PAYROLL on a System/36 in Denver. No level checking is performed between the PAYROLL file and the application programs that access it. Because the ACCMTH parameter was not specified, the access method for the target system is selected by the source system when the DDM file is opened to access the remote file.

### Example 5: Creating a DDM File to Access a File through TCP/IP

```
CRTDDMF FILE(OTHER/SALES) RMTFILE(PAYROLL)
        RMTLOCNAME(ROCHESTER.XYZ.COM *IP) PORT(*DRDA)
```



This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location ROCHESTER.XYZ.COM is used by the DDM file to access a remote file named PAYROLL on a TCP/IP host with the domain name of ROCHESTER.XYZ.COM. The host listens on the standard DRDA port of 446. (Since \*DRDA is the default port, the PORT parameter is not actually necessary in this case.)

**Example 6: Creating a DDM File to Access a File through TCP/IP using a dotted decimal IP version 4 address and a numeric port number**

```
CRTDDMF FILE(OTHER/SALES) RMTFILE(PAYROLL)
        RMTLOCNAME('9.5.36.17' *IP) PORT(5021)
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location 9.5.36.17 is used by the DDM file to access a remote file named PAYROLL on a TCP/IP host with an IP address of 9.5.36.17. The host listens on port 5021.

**Example 7: Creating a DDM File to Access a File through TCP/IP using a colon hexadecimal IP version 6 address and a numeric port number**

```
CRTDDMF FILE(OTHER/SALES) RMTFILE(PAYROLL)
        RMTLOCNAME('2001:DB8:0:B33D:8785:0:1734:F51C'
        *IP) PORT(32)
```

This command creates a DDM file named SALES, and stores it in the library OTHER on the source system. The remote location 2001:DB8:0:B33D:8785:0:1734:F51C is used by the DDM file to access a remote file named PAYROLL on a TCP/IP host with an IP address of 2001:DB8:0:B33D:8785:0:1734:F51C. The host listens on port 32.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF7302

File &1 not created in library &2.

Top



## Create Device Desc (APPC) (CRTDEVAPPC)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Device Description (APPC) (CRTDEVAPPC) command creates a device description for an Advanced Program-to-Program Communications (APPC) device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEVDD	Device description	<i>Name</i>	Required, Positional 1
RMTLOCNAME	Remote location	<i>Communications name</i>	Required, Positional 2
ONLINE	Online at IPL	<b>*YES</b> , <b>*NO</b>	Optional
LCLLOCNAME	Local location	<i>Communications name</i> , <b>*NETATR</b>	Optional
RMTNETID	Remote network identifier	<i>Communications name</i> , <b>*NETATR</b> , <b>*NONE</b>	Optional
CTL	Attached controller	<i>Name</i>	Optional
MODE	Mode	Values (up to 14 repetitions): <i>Communications name</i> , <b>*NETATR</b>	Optional
MSGQ	Message queue	Single values: <b>*CTLD</b> , <b>*SYSOPR</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i> , <b>*SYSOPR</b>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , <b>*CURLIB</b>	
APPN	APPN-capable	<b>*YES</b> , <b>*NO</b>	Optional
SNGSSN	Single session	Single values: <b>*NO</b> Other values: <i>Element list</i>	Optional
	Element 1: Single session capable	<b>*YES</b>	
	Element 2: Number of conversations	1-512, <b>10</b>	
LCLCTLSSN	Locally controlled session	<b>*NO</b> , <b>*YES</b>	Optional
PREESTSSN	Pre-established session	<b>*NO</b> , <b>*YES</b>	Optional
LOCPWD	Location password	<i>Character value</i> , <b>*NONE</b>	Optional
SECURELOC	Secure location	<b>*NO</b> , <b>*YES</b> , <b>*VFYENCPWD</b>	Optional
TEXT	Text 'description'	<i>Character value</i> , <b>*BLANK</b>	Optional
LOCADR	Local location address	00-FF, <b>00</b>	Optional
AUT	Authority	<i>Name</i> , <b>*CHANGE</b> , <b>*ALL</b> , <b>*USE</b> , <b>*EXCLUDE</b> , <b>*LIBCRTAUT</b>	Optional

Top

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## Device description (DEV D)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

Top

---

## Local location (LCLLOCNAME)

Specifies the unique location name that identifies the local system to remote devices. The name cannot be the same as that specified for the **Remote location (RMTLOCNAME)** parameter. If the values specified on the Remote network ID and Local network ID parameters are the same, the combination of the names specified for the LCLLOCNAME parameter and the RMTLOCNAME parameter must be unique for each device description attached to the same controller.

### \*NETATR

The LCLLOCNAME value specified in the system network attributes is used.

Use the Display Network Attributes (DSPNETA) command to determine the default local location name.

*local-location-name*

Specify the local location name.

Top

---

## Remote network identifier (RMTNETID)

Specifies the name of the remote network.

**\*NETATR**

The remote network identifier specified in the network attributes is used.

**\*NONE**

The remote network name is X'40'.

*remote-network-ID*

Specify the ID of the remote network.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

---

## Mode (MODE)

Specifies the names of the modes that define the sessions on this device.

You can enter multiple values for this parameter.

**\*NETATR**

The remote network identifier specified in the network attributes is used.

*mode-name*

Specify the name of mode descriptions used by this device. The mode name cannot be CPSVCMG or SNASVCMG; these mode names are reserved for system use.

Specify up to 14 mode names.

Top

---

## Message queue (MSGQ)

Specifies the message queue to which operational messages for this device are sent.

**\*CTLD**

Messages are sent to the message queue defined in the attached controller. The message queue is determined when the device is varied on.

**\*SYSOPR**

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

*message-queue-name*

Specify the name of the message queue to which operational messages are sent.

## **\*LIBL**

All libraries in the job's library list are searched until the first match is found.

## **\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

### *library-name*

Specify the name of the library to be searched.

Top

---

## **APPN-capable (APPN)**

Specifies whether this device is for Advanced Peer-to-Peer Networking (APPN).

### **\*YES**

This device is for APPN.

### **\*NO**

This device is not for APPN.

Top

---

## **Single session (SNGSSN)**

Specifies whether a single or multiple sessions are used with remote locations. If single sessions are used, the number of conversations must be specified.

### **Single values**

#### **\*NO**

Multiple sessions are used.

#### **Element 1: Single session capable**

##### **\*YES**

Single sessions are used.

#### **Element 2: Number of conversations**

## 10

The default number of conversations is 10.

### *conversations*

Specify a valid value that ranges from 1 through 512 for the number of conversations.

Top

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## **Locally controlled session (LCLCTLSSN)**

Specifies whether the session is a locally controlled session.

\*NO

The single session is remotely controlled.

\*YES

The single session is locally controlled.

Top

---

## **Pre-established session (PREESTSSN)**

Specifies whether the session is established when the connection with the remote system is established.

\*NO

The session is not established automatically at connection time.

\*YES

The session is established automatically at connection time.

Top

---

## **Location password (LOCPWD)**

Specifies the password to be used to validate a connection.

\*NONE

There is no password.

### *location-password*

Specify the password as a string of hexadecimal characters.

---

## Secure location (SECURELOC)

Specifies how security information is handled for program start requests received from remote systems. The value is sent to the remote system when sessions are established. It is used in determining how allocate or evoke requests should be built. The value only applies to conversations started with the SECURITY(SAME) level of security.

### \*NO

The remote system is not a secure location. Security validation done by the remote system is not accepted. SECURITY(SAME) conversations are treated as SECURITY(NONE). No security information will be sent with allocate or evoke requests.

### \*YES

The remote system is a secure location and the local system will accept security validation done by remote systems. For SECURITY(SAME) conversations, the local system allows the remote system to verify user passwords. On the remote system, user IDs are retrieved from the security manager. The user IDs are then sent with an already verified indicator in the allocate or evoke requests.

### \*VFYENCPWD

The remote system is not a secure location. For SECURITY(SAME) conversations, the remote system is not allowed to send the already verified indicator. On the remote system, user IDs and passwords are retrieved from the security manager. Passwords are then encrypted and sent with the user IDs in the allocate or evoke requests, to be verified by the local system. This value should only be used if the remote system is using V3R2M0 operating system or later. If the remote system does not support password protection then session establishment will not be allowed. For remote systems that support password protection, but do not support verification of encrypted passwords (VFYENCPWD), conversations will be treated as SECURITY(NONE).

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Local location address (LOCADR)

Specifies the local location address for this device.

The possible values are 00 to FF.



---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

---

## Examples

```
CRTDEVAPP  DEVD(APPC1)  LOCADR(00)  RMTLOCNAME(CHICAGO)
           CTL(CTLAPPC01)  SNGSSN(*YES)
```

This command creates a device description for an APPC communications device named APPC1. The device has a location address of X'00' and is in Chicago, attached to controller CTLAPPC01. This device is limited to one session at a time.

---

## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

**CPF2654**

Device description &1 created but possibly not usable.

**CPF34D7**

Output queue &1 in &2 not changed due to errors.

[Top](#)

---

## Create Device Desc (Async) (CRTDEVASC)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description Asynchronous (CRTDEVASC) command creates a device description for an asynchronous (ASYNC) device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

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### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Positional 1
RMTLOCNAME	Remote location	<i>Communications name</i> , *NONE	Required, Positional 2
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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### Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

Top

---

### Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

\*NONE

There is no remote location name. This device can represent any remote location.

*remote-location-name*

Specify the remote location name, remote system name, or internet address.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file.

The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTDEVASC  DEVD(ASC001)  RMTLOCNAME(NYC)  CTL(CTLASCNYC)
```

This command creates an asynchronous communications device. The device is located in New York City and is attached to controller CTLASCNYC.

Top

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## Error messages

\*ESCAPE Messages

**CPF261A**

Device description &1 not created due to errors.

Top



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## Create Device Desc (ASP) (CRTDEVASP)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (ASP) (CRTDEVASP) command creates a device description for an auxiliary storage pool (ASP) device.

More information about independent disk pools, see the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

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### Parameters

Keyword	Description	Choices	Notes
DEV D	Device description	<i>Name</i>	Required, Key, Positional 1
RSRCNAME	Resource name	<i>Name</i>	Required, Key, Positional 2
RDB	Relational database	<i>Name</i> , *GEN	Optional
MSGQ	Message queue	Single values: *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

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### Device description (DEV D)

Specifies the name of the device description.

Top

---

### Resource name (RSRCNAME)

Specifies the resource name that identifies the auxiliary storage pool (ASP) by which a collection of disks is known.

*resource-name*

Specify the name that identifies the ASP by which a collection of disks is known.

Top

---

## Relational database (RDB)

Specifies the relational database (RDB) name to associate with the auxiliary storage pool (ASP) device.

**\*GEN** The RDB name will be generated by the operating system after a successful vary on of the device. If the device is the primary ASP of an ASP group, the RDB name will be the same as the device name. If the ASP device is a secondary ASP, or a user-defined file system (UDFS) ASP, the RDB name will be set to blanks.

### *relational-database-name*

Specify the RDB name to associate with the ASP device. The specified RDB name will not be used if the ASP device description is a secondary ASP or UDFS ASP. If the ASP device description is the primary ASP of an ASP group, when the ASP group is varied on, the specified RDB name will become the name by which the relational database is known on this system and other systems which connect to this system.

Top

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## Message queue (MSGQ)

Specifies the message queue to which operational messages for this device are sent.

The possible qualified names are:

### **\*SYSOPR**

Messages are sent to the QSYSOPR message queue in QSYS.

### *message-queue-name*

Specify the name of the message queue to which operational messages are sent.

**\*LIBL** All libraries in the job's library list are searched until the first match is found.

### **\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

### *library-name*

Specify the name of the library to be searched.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### **\*BLANK**

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.



### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## **Examples**

### **Example 1: Create an Independent ASP Device**

```
CRTDEVASP  DEVD(COMPANY1)  RSRNAME(COMPANY1)
```

This command creates a device description for an independent ASP named COMPANY1. The resource name for the device description is also named COMPANY1. Operational messages for independent ASP COMPANY1 will be sent to message queue QSYSOPR in library QSYS.

### **Example 2: Create a Primary ASP Device**

```
CRTDEVASP  DEVD(WAREHOUSE2)  RSRNAME(WAREHOUSE2)  
           RDB(WAREHOUSE_NUMBER_2)  MSGQ(INVENTORY/WH2)
```

This command creates a device description for a primary ASP named WAREHOUSE2. The resource name for the device description is also named WAREHOUSE2. The relational database (RDB) name that will be associated with the ASP group when this primary ASP device is varied on is WAREHOUSE\_NUMBER\_2. Operational messages for independent ASP WAREHOUSE2 will be sent to message queue WH2 in library INVENTORY.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

[Top](#)

## Create Device Desc (BSC) (CRTDEVBSB)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Device Description (BSC) (CRTDEVBSB) command creates a device description for a binary synchronous communications (BSC) device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEVDD	Device description	<i>Name</i>	Required, Positional 1
LOCADR	Local location address	00-FE	Required, Positional 2
RMTLOCNAME	Remote location	<i>Communications name</i>	Required, Positional 3
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
CNN	Connection type	*PP, *MPTRIB	Optional
APPTYPE	Application type	*BSCCEL, *RJE, *EML, *BSC38, *RPGT	Optional
CTNWIN	Contention resolution winner	*SEC, *PRI	Optional
BLOCK	Blocking type	*NONE, *ITB, *IRS, *NOSEP, *USER, *SEP	Optional
SEPCHAR	Separator character	00, 04, 05, 06, 07, 08, 09, 0A, 0B, 0C, 0D, 0E, 0F, 11, 12, 13, 14, 15, 16, 17, 18, 19, 1A, 1B, 1C, 1E, 20, 21, 22, 23, 24, 25, 27, 28, 29, 2A, 2B, 2C, 2E, 2F, 30, 31, 33, 34, 35, 36, 38, 39, 3A, 3B, 3C, 3E, 3F, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 4A, 4B, 4C, 4D, 4E, 4F, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 5A, 5B, 5C, 5D, 5E, 5F, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 6A, 6B, 6C, 6D, 6E, 6F, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 7A, 7B, 7C, 7D, 7E, 7F, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 8A, 8B, 8C, 8D, 8E, 8F, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 9A, 9B, 9C, 9D, 9E, 9F, A0, A1, A2, A3, A4, A5, A6, A7, A8, A9, AA, AB, AC, AD, AE, AF, B0, B1, B2, B3, B4, B5, B6, B7, B8, B9, BA, BB, BC, BD, BE, BF, C0, C1, C2, C3, C4, C5, C6, C7, C8, C9, CA, CB, CC, CD, CE, CF, D0, D1, D2, D3, D4, D5, D6, D7, D8, D9, DA, DB, DC, DD, DE, DF, E0, E1, E2, E3, E4, E5, E6, E7, E8, E9, EA, EB, EC, ED, EE, EF, F0, F1, F2, F3, F4, F5, F6, F7, F8, F9, FA, FB, FC, FD, FE, FF	Optional
RMTBSCCEL	Remote BSCCEL	*NO, *YES	Optional
RCDLEN	Record length	1-8192, 512	Optional
BLKLEN	Block length	1-8192, 512	Optional
TRNSPY	Transmit in transparent mode	*NO, *YES	Optional

Keyword	Description	Choices	Notes
DTACPR	Compress and decompress data	<u>*NO</u> , *YES	Optional
TRUNC	Truncate trailing blanks	<u>*NO</u> , *YES	Optional
GRPSEP	Group separator type	<u>*EOT</u> , *OFCSYS, *DEV3740	Optional
EMLDEV	Emulated device	<b>3278</b> , 3284, 3286, 3287, 3288, 3289	Optional
EMLKBD	Emulated keyboard	<u>*UPPER</u> , *LOWER	Optional
EMLNUMLCK	Emulated numeric lock	<u>*NO</u> , *YES	Optional
EMLWRKSTN	Emulation work station	Name, <u>*ANY</u>	Optional
TEXT	Text 'description'	Character value, <u>*BLANK</u>	Optional
AUT	Authority	Name, <u>*CHANGE</u> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

## Device description (DEV D)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Local location address (LOCADR)

Specifies the local location address for this device.

The possible values are 00 to FF.

Top

---

## Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

\*YES

This device is varied on automatically at IPL.

\*NO

This device is not varied on automatically at IPL.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

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## Connection type (CNN)

Specifies the connection type for this device.

### \*PP

A point-to-point connection type is used.

### \*MPTRIB

A multipoint tributary connection type is used.

Top

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## Application type (APPTYPE)

Specifies the application type used by this device.

### \*BSCCL

The application is Binary Synchronous Communications Equivalence Link (BSCCL). This parameter is specified to communicate with other BSC systems or devices supported by this system.

### \*RJE

The application is BSC Remote Job Entry (RJE).

### \*EML

The application is 3270 device emulation, using the 3270 Device Emulation Utility, or the 3270 program interface support provided in the System/38 environment.

### \*BSC38

The application is a System/38 environment program. This parameter is specified for a device that communicates with other BSC systems or devices when the application uses a BSC device file or Mixed device file which is used in the System/38 environment.

### \*RPGT

This parameter is specified for applications using RPG II Telecommunications (BSCA) in the System/36 environment.

**Note:** This value can also be specified when the application uses ICF support, but does not need Evoke capability or program-start request capability. If this value is specified, the value of the **Remote BSCCEL (RMTBSCCEL)** parameter is automatically set to \*NO. If the application uses ICF, make sure there is no requirement for Evoke or program-start request support before you try to use this value, or unpredictable results will occur.

Top

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## Contention resolution winner (CTNWIN)

Specifies which BSC station will gain control when line contention occurs.

**\*SEC**

Specifies that the local system is the secondary station. It will give way to the other station when line contention occurs.

**\*PRI**

Specifies that the local system is the primary station. It gets control when contention occurs.

Top

---

## Blocking type (BLOCK)

Specifies if the system or user blocks and deblocks transmitted records.

**\*NONE**

No blocking or deblocking is done by the system.

**\*ITB**

Records are blocked or deblocked based on the location of an intermediate text block (ITB) control character.

**\*IRS**

Records are blocked or deblocked, based on the location of an interrecord separator (IRS) character.

**\*NOSEP**

No record separator character is in the transmission block sent to or received from the device. The system blocks and deblocks the records by a fixed record length, as specified in the DDS format specifications.

**\*USER**

The user program provides all control characters, including record separator characters, BSC framing characters, transparency characters, and any other characters needed

**\*SEP**

Records are blocked or deblocked based on the location of a user-specified record separator character.

[Top](#)

---

## Separator character (SEPCHAR)

Specifies a unique one-byte record separator character.

Valid values range from 00 to FF; BSC control characters are not allowed.

[Top](#)

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## Remote BSC/CEL (RMTBSC/CEL)

Specifies the type of BSC/CEL session with the remote system.

\*NO

The remote system or device cannot recognize BSC/CEL commands. ICF operations and return codes are used.

**\*YES**

The remote system can recognize BSC/CEL start and end commands, and BSC/CEL online messages.

[Top](#)

---

## Record length (RCDLEN)

Specifies the maximum record length allowed when communicating with this device.

Valid values range from 1 to 32767.

The value must be at least the size of the largest record to be sent, but must not exceed the buffer size specified on the line description (MAXBUFFER parameter) to which this device is attached.

[Top](#)

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## Block length (BLKLEN)

Specifies the maximum block length allowed when communicating with this device.

The value must be at least the size of the largest record to be sent, but must not exceed the buffer size specified on the line description (MAXBUFFER parameter) to which this device is attached.

512

The record length is 512.

**Note:** This parameter is valid only if APPTYPE(\*BSCSEL) or APPTYPE(\*RPGT) is specified.

### *block-length*

Specify the maximum block length (in bytes) of records sent. The value must be at least the size of the largest record sent. Valid values range from 1 through 32767.

Top

---

## **Transmit in transparent mode (TRNSPY)**

Specifies whether the text transparency feature is used when sending blocked records. This feature permits the transmission of all 256 EBCDIC character codes; you should use this feature when transmitting packed or binary data fields.

### \*NO

The text transparency feature is not used.

### \*YES

The text transparency feature is to be used, which permits the transmission of all 256 EBCDIC character codes.

Top

---

## **Compress and decompress data (DTACPR)**

Specifies whether data compression is performed.

**Note:** DTACPR(\*YES) cannot be specified if TRNSPY(\*YES) or TRUNC(\*YES) is specified. This parameter is valid only if APPTYPE(\*BSCSEL) or APPTYPE(\*RPGT) is specified.

### \*NO

No data compression or decompression occurs.

### \*YES

Data is compressed for output and decompressed for input.

Top



---

## Truncate trailing blanks (TRUNC)

Specifies whether trailing blanks are removed from output records.

### \*NO

Trailing blanks are not removed from output records.

### \*YES

Trailing blanks are removed from output records.

Top

---

## Group separator type (GRPSEP)

Specifies a separator for groups of data, such as data sets and documents.

### \*EOT

An end of transmission (EOT) control character is used.

### \*OFCSYS

A transmission block ending with an end of text (ETX) control character is used.

### \*DEV3740

A null record (STX ETX) is used.

Top

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## Emulated device (EMLDEV)

Specifies that this program device entry is used to send and receive 3270 data streams. The emulation device parameter consists of an emulation device type and an emulation device data format. The emulation device data format specifies the format of the type 3270 data stream being sent or received. A 20- or 32-byte common header that contains type 3270 command and data flow information is located at the start of the I/O buffer that is sending or receiving the type 3270 data stream. This parameter applies only to SNUF communications. This parameter can be specified as a list of two values (elements) or as a single value (\*NONE).

### 3278

This device is used to emulate a 3278 display device.

### 3284

This device is used to emulate a 3284 printer device.

### 3286

This device is used to emulate a 3286 printer device.

3287

This device is used to emulate a 3287 printer device.

3288

This device is used to emulate a 3288 printer device.

3289

This device is used to emulate a 3289 printer device.

Top

---

## Emulated keyboard (EMLKBD)

Specifies the type of 3278 display keyboard that is emulated. This parameter is valid only when \*EML is specified for the **Application type (APPTYPE)** parameter.

\*UPPER

A 3270 display device keyboard is emulated with uppercase characters only.

\*LOWER

A 3270 display device keyboard is emulated with uppercase and lowercase characters.

Top

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## Emulated numeric lock (EMLNUMLCK)

Specifies whether numeric input fields only allow numeric data on a 5250 keyboard. The value can be specified for this parameter only if \*EML is specified for the **Application type (APPTYPE)** parameter.

\*NO

3270 emulation allows any data to be typed in the numeric input fields.

\*YES

3270 emulation allows only numeric data to be typed in the numeric input fields. Valid numeric data include the characters 0 through 9 and symbols + - , . and blank.

Top

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## Emulation work station (EMLWRKSTN)

The emulation work station associates an emulation device with a real display or printer device. The device address is reserved for use exclusively by that work station. If no device or \*ANY is specified, any work station can use the emulation device.

### \*ANY

Any work station can use the emulation device.

### *work-station*

Specify the name for the work station that is to use this emulation device.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library

containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

[Top](#)

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## Examples

```
CRTDEVBSC  DEVD(BSC001)  LOCADR(27)  RMTLOCNAME(BSC001LC)
           CTL(CTLBSC001)  CNN(*PP)  APPTYPE(*RJE)
```

This command creates a binary synchronous communications device named BSC001. Its address is X'27' and it is attached to the controller CTLBSC001. The connection type of the device is \*PP and it uses the RJE application.

[Top](#)

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## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

[Top](#)

## Create Device Desc (Crypto) (CRTDEVCRP)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Device Description (Crypto) (CRTDEVCRP) command creates a device description for a cryptographic device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEV D	Device description	<i>Name</i>	Required, Key, Positional 1
RSRCNAME	Resource name	<i>Name</i> , *NONE	Required, Key, Positional 2
APPTYPE	Application type	*CCA, *CCAUDX, *NONE	Optional
ONLINE	Online at IPL	*NO, *YES	Optional
MSGQ	Message queue	Single values: *SYSVAL, *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
PKAKEYFILE	PKA key store file	Single values: *NONE Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: PKA key store file	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
DESKEYFILE	DES key store file	Single values: *NONE Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: DES key store file	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

### Device description (DEV D)

Specifies the name of the device description.

Top

---

## Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware that the description represents.

### **\*NONE**

No resource name is specified. A resource name must be provided before the device can be varied on.

### *resource-name*

Specify the name that identifies the crypto device hardware on the system.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with TYPE(\*CRP) specified to determine the resource name.

Top

---

## Application type (APPTYPE)

Specifies the application that runs inside of the secure computing environment on the cryptographic device.

### **\*CCA**

The flash memory in the cryptographic device is initialized with the Common Cryptographic Architecture (CCA) application.

**Note:** This value is valid only for 4758 and 4764 device types.

### **\*CCAUDX**

The flash memory in the cryptographic device is initialized only if the system does not detect the CCA application or a CCA User Defined Extension (UDX) application within the flash memory of the device.

**Note:** This value is valid only for 4758 and 4764 device types.

### **\*NONE**

The cryptographic device does not support flash memory applications.

**Note:** This value is valid only for 2058 device type.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### **\*NO**

This device is not varied on automatically at IPL.

**\*YES**

This device is varied on automatically at IPL.

Top

---

## Message queue (MSGQ)

Specifies the message queue to which operational messages for this device are sent.

The possible qualified names are:

**\*SYSVAL**

The messages are sent to the message queue specified by the system value QCFGMSGQ.

**\*SYSOPR**

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

*message-queue-name*

Specify the name of the message queue to which operational messages are sent.

**\*LIBL**

All libraries in the job's library list are searched until the first match is found.

**\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*

Specify the name of the library to be searched.

Top

---

## PKA key store file (PKAKEYFILE)

Specifies the name of the database file containing the PKA (Public Key Algorithm) keys.

**Single values**

**\*NONE**

No default PKA key database is used.

**Other values**

*PKA-key-store-file-name*

Specifies the name of the default PKA key database.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*library-name*

Specify the library where the object is located.

Top

---

## DES key store file (DESKEYFILE)

Specifies the name of the database file containing the DES (Data Encryption Standard) keys used for this device.

**Single values**

**\*NONE**

No default DES key database is used.

**Other values**

*DES-key-store-file-name*

Specifies the name of the default DES key database.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*library-name*

Specify the library where the object is located.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*BLANK**

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top



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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTDEVCRP  DEVD(CRP01)  RSRNAME(CRP01)
```

This command creates a device description for a cryptographic device that is named CRP01. The device type is determined from the resource name.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

Top



## Create Device Desc (Display) (CRTDEV DSP)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create Device Description (Display) (CRTDEV DSP) command creates a device description for a display device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEV D	Device description	<i>Name</i>	Required, Positional 1
DEVCLS	Device class	*LCL, *RMT, *VRT, *SNPT	Required, Positional 2
TYPE	Device type	3101, 3151, 3161, 3162, 3163, 3164, 3179, 3180, 3196, 3197, 3277, 3278, 3279, 3476, 3477, 3486, 3487, 5150, 5251, 5291, 5292, 5555, D220, T910, T925, T955, V100, V220, W30, W50, W60, *CALC, *NVT	Required, Positional 3
MODEL	Device model	0, 1, 2, 4, 5, 11, 3, 12, 23, 31, 32, 41, *ASCII, *DHCF, A1, A2, B1, B2, BA, B01, C01, E01, F01, G01, G02, C1, C2, D1, D2, EA, FA, FC, FD, EC, FE, FG, FW, HC, HG, HA, HW, W1, W2, 0000, 0001, 0002, 0004, 0005, 0011, 0003, 0012, 0023, 0031, 0032, 0041	Required, Positional 4
EMLDEV	Emulated twinaxial device	3196A2, 3197D2, *TYPE	Optional
PORT	Port number	0-17	Optional
SWTSET	Switch setting	0, 1, 2, 3, 4, 5, 6	Optional
SHRSSNNBR	Shared session number	0, 1, 2, 3	Optional
LOCADR	Local location address	00-FE	Optional
EMLASCII	Emulating ASCII device	*NO, *YES	Optional
ATTACH	Physical attachment	*DIRECT, *PTT, *MODEM, *WIRE3, *WIRE4, *EIA422	Optional
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
KBDTYPE	Keyboard language type	*SYSVAL, AGB, AGE, AGI, AGM, ALI, ALM, BGB, BGE, BLI, BLM, BRB, BRE, CAB, CAE, CAI, CAM, CLB, CLE, CSB, CSE, CYB, DMB, DME, DMI, DMM, ESB, FAB, FAE, FAI, FAM, FNB, FNE, FNI, FNM, FQB, FQI, GKB, GNB, GNE, HIB, HNB, HNE, ICB, ICE, ICI, ICM, INB, INI, IRB, ITB, ITE, ITI, ITM, JEB, JEI, JKB, JPB, JPE, JUB, KAB, KOB, LAB, LAE, LTB, LVB, MKB, MKE, NCB, NCE, NEB, NEE, NEI, NEM, NWB, NWE, NWI, NWM, PLB, PLE, PKB, PKE, PRB, PRE, PRI, PRM, RCB, RMB, RME, ROB, ROE, RUB, RUE, SFI, SFM, SGI, SGM, SKB, SKE, SPB, SPE, SPI, SPM, SQB, SQE, SSB, SSE, SSM, SSI, SWB, SWE, SWI, SWM, TAB, THB, THE, TKB, TKE, TRB, TRE, UAB, UAE, UKB, UKE, UKI, UKM, USB, USE, USI, USM, VNB, VNE, YGI, YGM	Optional

Keyword	Description	Choices	Notes
DROP	Drop line at signoff	<u>*YES</u> , *NO	Optional
ALWBLN	Allow blinking cursor	<u>*YES</u> , *NO	Optional
AUXDEV	Auxiliary device	Values (up to 31 repetitions): <i>Element list</i>	Optional
	Element 1: Auxiliary device type	6180, 6182, 6184, 6185, 6186M1, 6186M2, 7371, 7372	
	Element 2: Auxiliary device address	1-31	
PRINTER	Printer	<i>Name</i>	Optional
MAXLENRU	Maximum length of request unit	<u>*CALC</u> , 241, 245, 247, 256	Optional
APPTYPE	Application type	<u>*NONE</u> , *NRF, *CTLSSN, *DEVINIT, *APPINIT	Optional
ACTTMR	Activation timer	1-2550, <u>170</u>	Optional
INACTTMR	Inactivity timer	1-30, <u>*ATTACH</u> , *NOMAX, *SEC15, *SEC30	Optional
SNPTDEV	SNA pass-through device desc	<i>Name</i> , <u>*NONE</u>	Optional
SNPTGRP	SNA pass-through group name	<i>Name</i> , <u>*NONE</u>	Optional
LOGON	Host signon/logon command	<i>Character value</i> , <u>*NONE</u>	Optional
LINESPEED	Line speed	<u>*TYPE</u> , *CALC, 150, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, 38400	Optional
WORDLEN	Word length	<u>*TYPE</u> , *CALC, 7, 8	Optional
PARITY	Type of parity	<u>*TYPE</u> , *CALC, *EVEN, *ODD, *NONE, *MARK, *SPACE	Optional
STOPBITS	Stop bits	<u>*TYPE</u> , 1, 2	Optional
MAXOUT	Maximum outstanding frames	1-7, <u>7</u>	Optional
IDLTMR	Idle timer	10-250, <u>40</u>	Optional
NRMPOLLTMR	NRM poll timer	2-100, <u>3</u>	Optional
FRAMERTY	Frame retry	5-64, <u>15</u>	Optional
RMTLOCNAME	Remote location	<i>Communications name</i>	Optional
LCLLOCNAME	Local location	<i>Communications name</i> , <u>*NETATR</u>	Optional
RMTNETID	Remote network identifier	<i>Communications name</i> , <u>*NETATR</u> , *NONE	Optional
IGCFEAT	DBCS feature	<i>Element list</i>	Optional
	Element 1: Device features	<i>Character value</i>	
	Element 2: Last code point	4141-FFFE	
TEXT	Text 'description'	<i>Character value</i> , <u>*BLANK</u>	Optional
DEPLOCNAME	Dependent location name	<i>Communications name</i> , <u>*NONE</u>	Optional
CHRID	Character identifier	Single values: *SYSVAL, <u>*KBDTYPE</u> Other values: <i>Element list</i>	Optional
	Element 1: Graphic character set	1-32767	
	Element 2: Code page	1-32767	
PRTDEV	Print device	<i>Name</i> , <u>*SYSVAL</u>	Optional
OUTQ	Output queue	Single values: <u>*DEV</u> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Output queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <u>*LIBL</u> , *CURLIB	

Keyword	Description	Choices	Notes
PRTFILE	Printer file	<i>Qualified object name</i>	Optional
	Qualifier 1: Printer file	<i>Name, <u>QSYSPRT</u></i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
WSCST	Workstation customizing object	Single values: *NONE Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Workstation customizing object	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
AUT	Authority	<i>Name, *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT</i>	Optional

Top

---

## Device description (DEV D)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Device class (DEVCLS)

Specifies the device class for this display station or printer.

### \*LCL

This device description is for a device connected to a local work station controller.

### \*RMT

This device description is for a device connected to a remote work station controller.

### \*VRT

This device description is for a virtual display station. Through a virtual display station, users can access (pass through to) their own system from a remote system. A virtual display station allows the remote system or a personal computer to emulate the interface of the user's own system.

### \*SNPT

This device description is for a display station connected to an SNA pass-through advanced program-to-program communications (APPC) controller. SNA pass-through support allows the user to connect this display station with host logical unit (LU) types 0 through 3 applications.

**Note:** ASCII devices must be configured with a device class of \*LCL (including ASCII devices attached with modems). To use ASCII display stations as virtual devices, create a virtual device description with the device type of the twinaxial display station that the ASCII display station emulates (for example, a virtual device of device type 3196 for an ASCII display station).

---

## Device type (TYPE)

Specifies the type of device this description represents.

- 3179
- 3180
- 3196
- 3197
- 3277
- 3278
- 3279
- 3476
- 3477
- 3486
- 3487
- 5150 (any display station attached by a TDLC link)
- 5251
- 5291
- 5292
- 5555 (Double-Byte Character Set)
- \*NVT (Network Virtual Terminal)

The following type codes are valid for ASCII devices:

- 3101
- 3151
- 3161
- 3162
- 3163
- 3164
- \*CALC

**Note:** Specifying \*CALC allows port sharing for ASCII devices. ASCII port sharing allows different device types, using different physical parameters, to use the same port (at different times) without needing to manually reconfigure the port. If \*CALC is specified for this parameter, the system automatically calculates the device types for displays attached to this port.

More information on ASCII port sharing is in the Local Device Configuration book, SC41-5121 book or the ASCII Work Station Reference, SA41-3130.

The following are trademarks of Data General, TeleVideo, DEC, Wyse and are valid for ASCII devices:

<b>TYPE</b>	<b>Description</b>
-------------	--------------------

<b>D220</b>	Data General Dasher D220
-------------	--------------------------

<b>T910</b>	TeleVideo 910
-------------	---------------

<b>T925</b>	TeleVideo 925
-------------	---------------

<b>T955</b>	TeleVideo 955
-------------	---------------

V100 DEC VT-100  
V220 DEC VT-220  
W30 Wyse WY30  
W50 Wyse WY50  
W60 Wyse WY60

Top

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## Device model (MODEL)

Specifies the model number of the device for this description.

This is a required parameter.

The possible values for the device model for each device type are:

TYPE	MODEL
3179	2
3180	2
3196	A1, A2, B1, B2
3197	C1, C2, D1, D2, W1, W2
3277	0, *DHCF
3278	0, 4, 5, *DHCF
3279	0, 5, *DHCF
3476	EA, EC
3477	FA, FC, FD, FE, FG, FW
3486	BA
3487	HA, HC, HG, HW
5150	1, 2, 3, 4, A1
5251	11
5291	1, 2
5292	1, 2
5555	B01, E01, C01, F01, G01, G02
*NVT	0000

For ASCII devices only:

**\*ASCII**

Specify this value if the model number cannot be easily determined for this display station. The system will assign a model number (if the device has a model number). The model number assigned by the system may not be the actual model number of your display station; see the following table to determine the model number which will be assigned by using \*ASCII. It is recommended that you determine your display station's model number if at all possible, and enter that number.

The possible choices are:

<b>TYPE</b>	<b>MODEL</b>
<b>3101</b>	23 (*ASCII)
<b>3151</b>	11 (*ASCII), 31, 41
<b>3161</b>	11 (*ASCII), 12
<b>3162</b>	11 (*ASCII), 12, 31, 32
<b>3163</b>	11 (*ASCII), 12
<b>3164</b>	11 (*ASCII), 12
<b>*CALC</b>	(*ASCII)

The following are trademarks of Data General, TeleVideo, DEC, Wyse and are valid for ASCII devices:

<b>TYPE</b>	<b>Description</b>
<b>D220</b>	Data General Dasher D220
<b>T910</b>	TeleVideo 910
<b>T925</b>	TeleVideo 925
<b>T955</b>	TeleVideo 955
<b>V100</b>	DEC VT-100
<b>V220</b>	DEC VT-220
<b>W30</b>	Wyse WY30
<b>W50</b>	Wyse WY50
<b>W60</b>	Wyse WY60

Top

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## Emulated device (EMLDEV)

Specifies the twinaxial device emulation to be used by an IBM 3151 or IBM 3162 display. The available emulations are 3196A2, which permits an 80-column display, and 3197D2, which permits a 132-column display.

**Note:** 3197D2 emulation for an IBM 3151 model 31/41 requires the installation of a "cartridge for expansion" (part number 81X5575) in addition to the appropriate setting of this parameter.

### \*TYPE

The default value for this parameter is 3196A2.

#### **3196A2**

An 80-column display is used.

#### **3197D2**



A 132-column display is used.

Top

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## Port number (PORT)

Specifies the port number for local devices.

For twinaxial devices: Possible values range from 0 through 7.

For ASCII devices: Possible values range from 0 through 17 and indicate the port on the ASCII work station controller to which this device is attached. Without the 12-port expansion feature, ports 0 through 5 are valid. With the 12-port expansion feature, ports 6 through 17 are added.

Top

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## Switch setting (SWTSET)

Specifies the switch setting for local twinaxial devices.

Valid values range from 0 to 6.

Top

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## Shared session number (SHRSSNBR)

Specifies the shared session number for a twinaxial display station. This parameter is valid only for 3486 and 3487 configured device types.

**Note:** Displays that share session addresses can be attached only to the 2661, 6050, 9146, or the 915A local work station controllers, or to the 5494 remote work station controller.

0

The shared session number is 0.

**1**

The shared session number is 1.

**2**

The shared session number is 2.

**3**

The shared session number is 3.

Top

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## Local location address (LOCADR)

Specifies the local location address for this device.

The possible values range from 00 to FE. The type of controller to which the device is being attached determines which values are valid.

### Controller

#### Valid Values

5251 00, 02-09

5294 00-1B

5394 00-14

5494 00-37

3174 02-41

3274 02-41

### SNA Host

01-FE

4701 02-FE

4702 02-FE

4680 02-54

4684 02-FE

FBSS 02-FE

Top

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## Emulating ASCII device (EMLASCII)

Specifies, for ASCII devices, whether the device being configured is emulating a supported ASCII device type (TYPE parameter). When an ASCII device is configured, choices for the following parameters are restricted to the valid range for that device:

- ATTACH (Physical attachment)
- LINESPEED (Line speed)
- WORDLEN (Word length)
- PARITY (Type of parity)
- STOPBITS (Stop bits)

For ASCII devices emulating supported ASCII device types, these restrictions may not be applicable (the emulating device might have a wider range of choices for these parameters than the emulated ASCII device does). When EMLASCII(\*YES) is specified, these parameter restrictions are not enforced; the user is allowed to enter the full range of values for these parameters, but also is responsible for verifying that the values selected are valid for the device being configured.

### \*NO

Specifies that the device being configured is one of the supported ASCII device types **Device type (TYPE)** parameter, and that the device-specific restrictions for the physical attachment, line speed, word length, type of parity, and stop bits parameters are to be enforced.

### \*YES

Specifies that the device being configured is emulating one of the supported ASCII device types (TYPE parameter), and that the device-specific restrictions for the physical attachment, line speed, word length, type of parity, and stop bits parameters are not enforced.

Top

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## Physical attachment (ATTACH)

Specifies, for ASCII display stations, the physical attachment of the display station to the ASCII work station controller.

### \*EIA422

The EIA-422 attachment (valid only for models 3101, 3151, 3161, 3162, 3163, and 3164) is used.

### \*DIRECT

Specifies EIA-232 Direct attachment.

### \*MODEM

Specifies EIA-232 modem attachment.

### \*PTT

Specifies Post Telephone and Telegraph (PTT) attachment.

### \*WIRE3

Specifies EIA-232 3-wire attachment.

### \*WIRE4

Specifies EIA-232 4-wire attachment.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

**Note:** This parameter is ignored when specified on the console or alternate console description.

Top

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## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

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## Keyboard language type (KBDTYPE)

Specifies the country keyboard language identifier for this display station.

### NOTES:

1. When DEVCLS(\*RMT) is specified and when TYPE(3277), TYPE(3278), or TYPE(3279) is specified, the following values can be specified: \*SYSVAL, AGI, ALI, BGB, BLI, CAI, CSB, DMI, FNI, FAI, HNB, IRB, ITI, JPB, MKB, NWI, PLB, PRI, RMB, RUB, SKB, SPI, SQB, SSI, SWI, TRB, USB, USI, or YGI. Otherwise, this parameter is not valid when DEVCLS(\*RMT) is specified.
2. When TYPE(3486) or TYPE(3487) is specified, the following values can be specified: \*SYSVAL, AGB, AGI, ALI, BGB, BLI, CAB, CAI, CLB, CSB, DMB, DMI, FAB, FAI, FNB, FNI, GNB (or GKB), HNB, ICB, ICI, IRB, ITB, ITI, JPB, KAB, MKB, NCB, NEB, NEI, NWB, PLB, PRB, PRI, RMB, RUB, SFI, SGI, SKB, SPB, SPI, SQB, SSB, SSI, SWB, SWI, TKB, TRB, UKB, UKI, USB, USI, or YGI.
3. This parameter is optional for the combination of DEVCLS(\*LCL) and TYPE(5150).

### \*SYSVAL

Instructs the system to use the QKBDTYPE system value.

### *keyboard language-type*

Specify the 3-character country identifier (used for EBCDIC and ASCII) for this display station.

The following two tables can be used to confirm the appropriate value for this parameter, or to determine which ASCII display devices can be used with a specified language.

- The keyboard mapping table shows valid country identifiers, the language represented by each identifier, and the ASCII device groups, if applicable, for each language.
- The ASCII displays and device groups table shows the valid display devices and their associated ASCII device groups.

For example, assume a user wants to create a 3101 display device. The ASCII displays and device groups table shows that a 3101 display supports ASCII device group A. The Keyboard Mapping table shows that the valid language identifiers that can be used with device group A include AGB, AGI, CAB, CAI, FAB, FAI, ITB, ITI, UKB, UKI, USB, and USI.

The following keyboards can be specified by ASCII displays only if a customizing object is also used: ALI, BGB, CSB, ESB, HNB, LTB, LVB, MKB, PKB, PLB, RMB, RUB, SKB, SQB, TRB, UAB, and YGI.

### Identifier

#### Language(Country) - ASCII Device Groups

**ALI** Albania  
**ALM** Albania Euro Currency  
**CLB** Arabic X/Basic - D\*  
**CLE** Arabic X/Basic Euro Currency  
**AGB** Austria/Germany - A, B  
**AGE** Austria/Germany Euro Currency  
**AGI** Austria/Germany Multinational - A, B  
**AGM** Austria/Germany Multinational Euro Currency  
**BLI** Belgium Multinational - B  
**BLM** Belgium Multinational Euro Currency  
**BRB** Brazilian Portuguese  
**BRE** Brazilian Portuguese Euro Currency  
**BGB** Bulgaria  
**BGE** Bulgaria Euro Currency  
**CAB** Canadian French - A, B  
**CAE** Canadian French Euro Currency  
**CAI** Canadian French Multinational - A, B  
**CAM** Canadian French Multinational Euro Currency  
**SPB** Catalan  
**RCB** Chinese (Simplified)  
**TAB** Chinese (Traditional)  
**YGI** Croatia  
**YGM** Croatia Euro Currency  
**CYB** Cyrillic  
**CSB** Czech Republic  
**CSE** Czech Republic Euro Currency  
**DMB** Denmark - B  
**DME** Denmark Euro Currency  
**DMI** Denmark Multinational - B  
**DMM** Denmark Multinational Euro Currency  
**ESB** Estonia  
**FNB** Finland/Sweden - B  
**FNE** Finland/Sweden Euro Currency  
**FNI** Finland/Sweden Multinational - B  
**FNM** Finland/Sweden Multinational Euro Currency  
**FAB** France (Azerty) - A, B  
**FAE** France (Azerty) Euro Currency

**FAI** France (Azerty) Multinational - A, B  
**FAM** France (Azerty) Multinational Euro Currency  
**FQB** France (Qwerty)  
**FQI** France (Qwerty) International  
**GNB** Greek (see note)  
**GNE** Greek Euro Currency  
**NCB** Hebrew - D\*  
**NCE** Hebrew Euro Currency  
**HIB** Hindi  
**HNB** Hungary  
**HNE** Hungary Euro Currency  
**ICB** Iceland  
**ICE** Iceland Euro Currency  
**ICI** Iceland Multinational  
**ICM** Iceland Multinational Euro Currency  
**INB** International  
**INI** International Multinational  
**IRB** Iran (Farsi)  
**ITB** Italy - A, B  
**ITE** Italy Euro Currency  
**ITI** Italy Multinational - A, B  
**ITM** Italy Multinational Euro Currency  
**JEB** Japan English  
**JEI** Japan English Multinational  
**JKB** Japan Kanji  
**JPB** Japan Latin Extended  
**JPE** Japan Latin Extended Euro Currency  
**JUB** Japan U.S. Basic  
**KAB** Japan Katakana  
**KOB** Korea  
**LAB** Lao People's Democratic Republic  
**LAE** Lao People's Democratic Republic Euro Currency  
**ROB** Latin-2/ROECE  
**ROE** Latin-2/ROECE Euro Currency  
**LVB** Latvia  
**LTB** Lithuania  
**MKB** FYR Macedonia (Former Yugoslav Republic)

**MKE** FYR Macedonia Euro Currency  
**NEB** Netherlands  
**NEE** Netherlands Euro Currency  
**NEI** Netherlands Multinational  
**NEM** Netherlands Multinational Euro Currency  
**NWB** Norway - B  
**NWE** Norway Euro Currency  
**NWI** Norway Multinational - B  
**NWM** Norway Multinational Euro Currency  
**PLB** Poland  
**PLE** Poland Euro Currency  
**PRB** Portugal - B  
**PRE** Portugal Euro Currency  
**PRI** Portugal Multinational - B  
**PRM** Portugal Multinational Euro Currency  
**RMB** Romania  
**RME** Romania Euro Currency  
**RUB** Russia  
**RUE** Russia Euro Currency  
**SQB** Serbia (Cyrillic)  
**SQE** Serbia (Cyrillic) Euro Currency  
**YGI** Serbia (Latin)  
**YGM** Serbia (Latin) Euro Currency  
**SKB** Slovakia  
**SKE** Slovakia Euro Currency  
**YGI** Slovenia  
**YGM** Slovenia Euro Currency  
**SPB** Spain - B  
**SPE** Spain Euro Currency  
**SPI** Spain Multinational - B  
**SPM** Spain Multinational Euro Currency  
**SSB** Spanish Speaking - B  
**SSE** Spanish Speaking Euro Currency  
**SSI** Spanish Speaking Multinational - B  
**SSM** Spanish Speaking Multinational Euro Currency  
**SWB** Sweden - B  
**SWE** Sweden Euro Currency

**SWI** Sweden Multinational - B  
**SWM** Sweden Multinational Euro Currency  
**SFI** Switzerland/France Multinational - B  
**SFM** Switzerland/France Multinational Euro Currency  
**SGI** Switzerland/Germany Multinational - B  
**THB** Thailand  
**THE** Thailand Euro Currency  
**TKB** Turkey (Qwerty)  
**TKE** Turkey (Qwerty) Euro Currency  
**TRB** Turkey (F)  
**TRE** Turkey (F) Euro Currency  
**UAB** Ukraine  
**UAE** Ukraine Euro Currency  
**UKB** United Kingdom - A, B  
**UKE** United Kingdom Euro Currency  
**UKI** United Kingdom Multinational - A, B  
**UKM** United Kingdom Multinational Euro Currency  
**USB** United States/Canada - A, B, C  
**USE** United States/Canada Euro Currency  
**USI** United States/Canada Multinational - A, B, C  
**USM** United States/Canada Multinational Euro Currency  
**PKB** Urdu  
**PKE** Urdu Euro Currency  
**VNB** Vietnam  
**VNE** Vietnam Euro Currency  
**YGI** Languages of the former Yugoslavia  
**YGM** Languages of the former Yugoslavia Euro Currency

**Note:** The GNB code is the current identifier for Greece. The GKB code was used prior to V2R1, and continues to be supported, but provides fewer characters than the recommended GNB code.

### **ASCII Displays and Devices Groups**

#### **Display**

##### **ASCII Device Group**

**3101** A  
**3151** B  
**3161** B  
**3162** B  
**3163** B



3164 B

The following devices are trademarks by TeleVideo, DEC, or Wyse, and must only specify languages in ASCII Device Group C or D:

### Display

	Description
D220	Data General Dasher D220
T910	TeleVideo 910
T925	TeleVideo 925
T955	TeleVideo 955
V100	DEC VT-100
V220	DEC VT-220 (supports ASCII Device Group D and C)
W30	Wyse WY30
W50	Wyse WY50
W60	Wyse WY60

Top

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## Drop line at signoff (DROP)

Specifies, for remote display stations, whether the line is disconnected by the system when all devices on the line are no longer in use.

The value specified in the device description can be overridden by a user signing off at the device if the user specifies the **Drop line at signoff (DROP)** parameter on the SIGNOFF command.

### \*YES

The switched line to the controller to which this device is attached is disconnected when this device and all other attached devices are no longer in use.

### \*NO

The switched line is not disconnected from the controller when all of its attached devices are no longer in use.

Top

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## Allow blinking cursor (ALWBLN)

Specifies whether the (program controlled) blinking cursor is suppressed.

**Note:** The value specified for this parameter can be overridden by display stations that have a keyboard setup capability that allows the blinking cursor attribute to be changed.

### \*YES

Allows the cursor to blink for the 3179, 3180, 3196, 3197, 3476, 3477, 3486, 3487, 5251, 5291, and 5292 display devices.

**\*NO**

The blinking cursor is suppressed.

Top

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## Auxiliary device (AUXDEV)

Specifies the device type and address of an additional device (if any) that is attached to the IEEE-488 port on the 5292 Model 2 device. Up to 31 plotters can be attached to the same IEEE-488 AUXDEV port on the 5292 Model 2, but at different IEEE-488 addresses. The valid additional device types are: 7371 (IBM 7371 Plotter), the 7372 (IBM 7372 Plotter), the 6180 (IBM 6180 Plotter), the 6182 (IBM 6182 Plotter), the 6184 (IBM 6184 Plotter), the 6185 (IBM 6185 Plotter), the 6186M1 (IBM 6186M1 Plotter), and the 6186M2 (IBM 6186M2 Plotter). The valid additional device address is a number from 1 to 31.

You can enter multiple values for this parameter.

Top

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## Printer (PRINTER)

Specifies, for a remote display station, the device name of the printer associated with the display device. The device description of the work station printer named in this parameter must have already been created and must currently exist on the system. Both the printer and the display device must be attached to the same controller.

Top

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## Maximum length of request unit (MAXLENRU)

Specifies, for remote display stations and printers, the maximum request unit (RU) length (in bytes) allowed.

\*CALC

The system determines the best value to use.

This is the recommended value.

*maximum-length-request-unit*

Specify 241 or 247. These values are valid only for devices attached to X.25 networks. If the recommended value of \*CALC is not specified, it is recommended that 241 be used for ELLC and 247 be used for QLLC. The values 245 and 256 can be specified, but the result is the same as specifying \*CALC.

Top

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## Application type (APPTYPE)

Specifies the application type used by this device.

### \*NONE

The device is not used for any application.

### \*NRF

The device is used for the Network Routing Facility application.

### \*CTLSSN

The device controls the sessions with \*DEVINIT devices.

### \*DEVINIT

The device starts (initiates) the session.

### \*APPINIT

The application program starts (initiates) the session.

Top

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## Activation timer (ACTTMR)

Specifies the amount of time (in seconds) to wait for the device to respond to the activation request from the host IBM System i5. If the device does not respond within this time, it is considered not available.

**Note:** This parameter is valid only on switched lines and when \*SNPT is specified for the DEVCLS parameter.

This parameter is valid only when \*SNPT is specified for the DEVCLS parameter.

### 170

Specifies the activate time of 170 seconds.

### *activate-time*

Specify a number ranging from 1 through 2550 indicating the number of seconds before the device is considered not available.

Top

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## Inactivity timer (INACTTMR)

Specifies an inactivity timer (time-out) value for display devices. This parameter also specifies what happens when the time-out value is exceeded, dependent on other attributes of the device:

- For display stations attached to an ASCII work station controller, the user's job is canceled when the display station is inactive (no data is sent or received) for a period of time that exceeds the time-out value. The display station is automatically varied off and on again, resulting in a new sign-on display.
- For display devices connected using SNA pass-through (SNPT) support, the user is informed by a message to QSYSOPR and the session is ended when the amount of time that the device is not bound to a host application exceeds the time-out value. The user must reestablish the connection and session.
- For display devices with an application type value of \*APPINIT, \*DEVINIT, or \*NRF, the session is ended when the device is inactive (the file opened against the device is closed and no additional requests to open files are received for the device) for a period of time that exceeds the time-out value.

**Note:** This timer is not used by devices allocated to a subsystem (normal interactive use) because the subsystem always has a file open for the device. The timer is used by batch jobs that open and close files for the device.

For a connection using SNA pass-through (\*SNPT) device class support, the default of \*ATTACH maps to \*NOMAX.

For a device with an application type value of \*APPINIT, \*CLTSSN, \*DEVINIT, or \*NRF, the default of \*ATTACH maps to 1 minute.

For Post Telephone and Telegraph (\*PTT) attachment, valid inactivity timer values are \*SEC15 (15 seconds), \*SEC30 (30 seconds), and 1 to 10 minutes. \*ATTACH maps to \*SEC30 (30 seconds).

For all other attachments, valid inactivity timer values are 1 to 30 minutes and \*NOMAX. \*ATTACH maps to \*NOMAX for these attachments.

#### **\*ATTACH**

This value varies by the value specified on the **Physical attachment (ATTACH)** parameter and certain values on the **Application type (APPTYPE)** parameter and **Device class (DEVCLS)** parameter.

#### **\*NOMAX**

No maximum inactivity time is tracked (no inactivity timer is to be enforced).

#### **\*SEC15**

A 15-second time-out period is used.

#### **\*SEC30**

A 30-second time-out period is used.

#### ***inactivity-timer***

Specifies a time-out value in minutes.

Top

---

## SNA pass-through device desc (SNPTDEV)

Specifies the name of the associated SNA pass-through device that is attached to a host or advanced program-to-program communications (APPC) controller.

### \*NONE

No name is specified.

*associated-device-name*

Specify the name of a device that is attached to a host or an APPC controller that is associated with this device.

Top

---

## SNA pass-through group name (SNPTGRP)

Specifies the name configured for a group of host devices in a configuration list (see CRTCFGL command). This indicates that this device is associated with any one of the devices in that group which is available.

### \*NONE

No name is specified.

*group-name*

Specify the name configured for a group of host devices that must be associated with this device.

Top

---

## Host signon/logon command (LOGON)

Specifies the sign-on (logon) text. This parameter is allowed when DEVCLS(\*SNPT) or APPTYPE(\*NRF) is specified. APPTYPE(\*NRF) specifies the logon string that is sent to the host system when a request is made to establish a session. DEVCLS(\*SNPT) specifies the sign-on (logon) text that is sent to the host system after starting SNA pass-through support.

This parameter also specifies the logon string that is sent to the system services control point (SSCP) on the host network when the file is opened for \*NRF.

### \*NONE

No text is sent to the host system.

*host-logon-command*

Specify text that is sent to the host system. The text must be enclosed in apostrophes if it contains blanks or other special characters. All apostrophes within the text must be represented by two apostrophes. A maximum of 256 characters can be specified.

---

## Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

### \*TYPE

The system uses the suggested setting for this device type.

\*TYPE selects 19200 bits per second for all display stations except the 3101 display station for which 9600 bits per second is selected. For a 5150 A1 device or a device type of \*CALC, \*TYPE selects 1200 bits per second.

### \*CALC

The system automatically calculates the line speed for displays attached to this port. If \*CALC is specified, it must also be specified on the **Type of parity (PARITY)** parameter and the **Word length (WORDLEN)** parameter.

**Note:** Specifying \*CALC allows port sharing for ASCII devices. ASCII port sharing allows different device types, using different physical parameters, to use the same port (at different times) without needing to manually reconfigure the port.

More information on ASCII port sharing is in the Local Device Configuration book, SC41-5121 book or the ASCII Work Station Reference, SA41-3130.

### *line-speed*

Specify the line speed. Valid values are: 150, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, or 38400.

---

## Word length (WORDLEN)

Specifies, for ASCII devices, the word length (bits per character) used to communicate over the attachment between the ASCII work station controller and the device. For modem and Post Telephone and Telegraph (PTT) attachments, the word length must be the same as the word length selected for the modem. For auxiliary printers connected to the auxiliary port of a display station, the word length must be the same as the word length specified for the display's device description.

Some devices do not support all word lengths; verify that your device supports the word length you intend to use.

\*TYPE The system uses the suggested setting for this device type. \*TYPE selects 8 bit word lengths for all display stations except the 3101 and D220 display stations which select 7 bit word lengths.

7

Specifies 7-bit word lengths.

8

Specifies 8-bit word lengths.

#### **\*CALC**

Specifies port sharing. If \*CALC is specified, the system automatically calculates the word lengths for displays attached to this port.

More information on ASCII port sharing is in the Local Device Configuration book, SC41-5121 book or the ASCII Work Station Reference, SA41-3130.

Top

---

## **Type of parity (PARITY)**

Specifies, for ASCII devices, the type of parity used to communicate over the attachment between the ASCII work station controller and the device. For modem and Post Telephone and Telegraph (PTT) attachments, the type of parity must be the same as the type of parity selected for the modem. For auxiliary printers connected to the auxiliary port of a display station, the type of parity must be the same as the type of parity specified for the display's device description.

Some devices do not support all types of parity; verify that your device supports the type of parity you intend to use.

#### **\*TYPE**

The system uses the suggested setting for this device type.

\*TYPE selects \*EVEN (Even parity) for all display stations except for the D220 which selects \*MARK. For a 5150 A1 device, \*TYPE selects \*NONE for an 8 bit word length and \*EVEN for a 7 bit word length. If \*CALC is specified for the **Device type (TYPE)** parameter, \*TYPE selects \*NONE.

#### **\*CALC**

Specifies port sharing. If \*CALC is specified, the system automatically calculates the parity for displays attached to this port.

More information on ASCII port sharing is in the Local Device Configuration book, SC41-5121 book and the ASCII Work Station Reference, SA41-3130.

#### **\*EVEN**

Specifies Even parity.

#### **\*ODD**

Specifies Odd parity.

#### **\*NONE**

Specifies that no parity bit is used.

### **\*MARK**

Specifies Mark parity (1 is used for the parity).

### **\*SPACE**

Specifies Space parity (0 is used for the parity).

Top

---

## **Stop bits (STOPBITS)**

Specifies, for ASCII devices, the number of stop bits used to communicate over the attachment between the ASCII work station controller and the device. For modem and Post Telephone and Telegraph (PTT) attachments, the number of stop bits must be the same as the number of stop bits selected for the modem. For auxiliary printers connected to the auxiliary port of a display station, the number of stop bits must be the same as the number of stop bits specified for the display's device description.

Some devices do not support all numbers of stop bits; verify that your device supports the number of stop bits you intend to use.

### **\*TYPE**

The system uses the suggested setting for this device type.

\*TYPE selects 1 stop bit for all displays except the DEC VT-100 display station, for which a setting of 2 stop bits is selected.

**1**

Specifies 1 stop bit.

**2**

Specifies 2 stop bits.

Top

---

## **Maximum outstanding frames (MAXOUT)**

Specifies the maximum number of frames that are sent sequentially to a remote system before the remote system (the 5150 work station) must respond. The maximum number of frames must be between 1 and 7. This parameter is valid only if 5150 is specified for the **Device type (TYPE)** parameter and A1 is specified for the **Device model (MODEL)** parameter or if ASCII port sharing is being used.

**7**

The default number of frames sent is 7.

*maximum-outstanding-frames*



Specify a value from 1 to 7 for the number of frames.

Top

---

## Idle timer (IDLTMR)

Specifies the time (in 0.1 second intervals) that the system waits for a response. If no response is received in the specified amount of time, then error recovery procedures are started. This parameter is valid only if the number is between 10 and 250, and if 5150 is specified for the **Device type (TYPE)** parameter and A1 is specified for the **Device model (MODEL)** parameter, or if ASCII port sharing is being used.

40

The default is 4.0 seconds.

*idle-timer*

Specify a value from 10 to 250 in 0.1 second intervals.

Top

---

## NRM poll timer (NRMPOLLTMR)

Specifies the interval (in 0.1 second intervals) for polling this device when it is in normal response mode (NRM). This parameter is valid only if 5150 is specified for the **Device type (TYPE)** parameter and A1 is specified for the **Device model (MODEL)** parameter or if ASCII port sharing is being used.

3

The default is 0.3 seconds.

*NRM-poll-timer*

Specify a value from 2 to 100 in 0.1 second intervals.

Top

---

## Frame retry (FRAMERTY)

Specifies the number of retries for an unanswered command frame or unacknowledged information frame. This parameter is valid only if 5150 is specified for the **Device type (TYPE)** parameter and A1 is specified for the **Device model (MODEL)** parameter or if ASCII port sharing is being used.

15

The default value is 15 retries.

*frame-retry*

Specify a value from 5 to 64 for the number of retries.

---

## Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

**Note:** This parameter is required for APPTYPE(\*APPINIT) devices. The remote location name for APPTYPE(\*APPINIT) devices is the VTAM/NCP (Virtual Telecommunications Access Method/Network Control Program) name of the physical device.

Top

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## Local location (LCLLOCNAME)

Specifies the local location name. When this parameter is specified with APPTYPE(\*CTLSSN) or APPTYPE(\*APPINIT), the remote location name is the name of the independent logical unit (LU) in the network control program (NCP).

### \*NETATR

The LCLLOCNAME value specified in the system network attributes is used.

### *local-location-name*

Specify the local location name.

Top

---

## Remote network identifier (RMTNETID)

Specifies the name of the remote network identifier (ID). This parameter can be specified for APPTYPE(\*APPINIT) devices.

### \*NETATR

The remote network identifier specified in the network attributes is used.

### \*NONE

No remote network identifier (ID) is used.

### *remote-network-ID*

Specify the ID of the remote network.

Top

---

## DBCS feature (IGCFEAT)

Specifies which double-byte character set (DBCS) table is used in DBCS feature code format expressing device features and the last code point value. The table at the end of this parameter description shows valid device features and last code point values for DBCS-capable devices.

**Note:** This parameter is valid for DBCS-capable devices only.

### Element 1: Features of the DBCS-Capable Devices

#### *device-features*

Specify the device character resolution, language, and relative buffer size device features using the format SSSSLR, where:

**SSSS** =

The resolution (number of matrix points used to create) of the character. For example, 2424 would be 24 matrix points of height and 24 matrix points of width available to formulate the character.

**L** = The language code. The 4 language codes currently supported are:

- J = Japanese
- K = Korean
- C = Traditional Chinese
- S = Simplified Chinese

**R** = The relative buffer size. The valid values are: 0, 1, 2, and 4.

### Element 2: Last Code Point

#### *last-code-point*

Specify the 4-digit code point of the last double-byte character. This value can be blank.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Dependent location name (DEPLOCNAME)

Specifies the dependent local location name used for Dependent LU Requester (DLUR), providing additional security for the connection. If this name is filled in, an activation request (SNA ACTLU) from a Dependent LU Server (DLUS) node must reference this name or it is rejected.

Remote DLUS nodes may optionally accept unsolicited reply PSIDs (Product Set IDs) from the IBM System i5 for auto-definition of LUs at the DLUS node. If so, then this name will be sent to the DLUS node in the reply PSID and it will be returned on the ACTLU request.

If unsolicited reply PSIDs are not supported by the DLUS node, then there will have to be close coordination of the PU name definitions on both systems.

**\*NONE**

No location name is defined.

*dependent-location-name*

Specify the dependent location name used for DLUR applications.

Top

---

## Character identifier (CHRID)

Specifies the character identifier (graphic character set and code page) that a work station display device supports.

**\*KBDTYPE**

The system determines the graphic character set and code page value that corresponds to the country keyboard language identifier value specified for the **Keyboard language type (KBDTYPE)** parameter.

**\*SYSVAL**

The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

*graphic-character-set code-page*

Specify the graphic character set and code page values that match the attributes of this display device. The graphic character set and code page values must be numbers in the range of 1 through 32767.

Top

---

## Print device (PRTDEV)

Specifies the name of the default printer device for this workstation. If the printer file being used to create the output specifies to spool the file, the spooled file is placed on the device's output queue, which is named the same as the device.

**Note:** This assumes the defaults are specified on the OUTQ parameter for the printer file, job description, user profile and workstation.

**\*SYSVAL**

The default system printer specified in the system value QPRTDEV is used.

### *printer-device-name*

Specify the name of a printer that is used to print the output.

Top

---

## **Output queue (OUTQ)**

Specifies the output queue (\*OUTQ) object.

The possible **output queue name** values are:

### \*DEV

The output queue associated with the printer specified on the DEV parameter of the printer file is used. The output queue has the same name as the printer. (The printer file DEV parameter is determined by the CRTPRTF, CHGPRTF, or the OVRPRTF command).

**Note:** This assumes the defaults were specified on the OUTQ parameter for the printer file, job description, user profile, and workstation.

### *output-queue-name*

Specify the name of the output queue.

The possible library values are:

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library is used to locate the output queue. If no current library entry exists in the library list, QGPL is used.

### *library-name*

Specify the name of the library where the output queue is located.

Top

---

## **Printer file (PRTFILE)**

Specifies an alternative printer device file to be used for processing the Print key on this display station.

The printer file is specified by its qualified name (library-name/print-file-name).

The possible library values are:

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*library-name*

Specify the library where the object is located.

Top

---

## Workstation customizing object (WSCST)

Specifies the qualified name of a work station customizing object.

### \*NONE

No work station customizing object is specified.

*work-station-customizing-object*

Specify the work station customizing object.

**Note:** If a work station customizing object is specified for the WSCST parameter, all country keyboard identifiers are valid for ASCII devices except for the following: FQB, FQL, INB, INI, JEB, JEL, JKB, JUB, KAB, KOB, RCB, and TAB.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*library-name*

Specify the library where the object is located.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTDEV DSP  DEVD(DSP4) TYPE(3180) MODEL(2)
           DEVCLS(*LCL) PORT(0)
           SWTSET(4) CTL(CTL01) KBDTYPE(USB)
```

This command creates a 3180 Model 2 local device description called DSP4. The display station is located on port 0 of the local work station controller CTL01. The device has an address of 4, with a United States/Canadian keyboard.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

#### CPF2631

Device type &2 not valid.

Top





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## Create Device Desc (Finance) (CRTDEVFNC)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (Finance) (CRTDEVFNC) command creates a device description for a finance device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Positional 1
TYPE	Device type	3624, 3694, 4704, *FNCICF	Required, Positional 2
LOCADR	Local location address	01-FF	Required, Positional 3
RMTLOCNAME	Remote location	<i>Communications name</i>	Optional
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
MAXLENRU	Maximum length of request unit	8-4096, *CALC	Optional
DEVCLS	Device class	*NONE, *SNPT	Optional
ACTTMR	Activation timer	1-2550, <u>170</u>	Optional
INACTTMR	Inactivity timer	1-30, *NOMAX, *SEC15, *SEC30	Optional
SNPTDEV	SNA pass-through device desc	<i>Name</i> , *NONE	Optional
SNPTGRP	SNA pass-through group name	<i>Name</i> , *NONE	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Device type (TYPE)

Specifies the type of device this description represents.

### TYPE Code

#### Description

**3624** Consumer Transaction Facility (System/38 compatible finance)

**3694** Document Processor (System/38 compatible finance)

**4704** Finance Display Station (System/38 compatible finance)

### \*FNCICF

Finance ICF (ICF compatible)

Top

---

## Local location address (LOCADR)

Specifies the local location address for this device.

The type of controller to which the device is being attached determines which values are valid.

### Controller

#### Valid Values

**FBSS** 01-FF

**4701** 01-FF

**4702** 01-FF

**3694** 01-04

**4730** 01-03

**4731** 01-02

**4732** 01-02

**4736** 01-02

LOCADR 01 is used only to communicate with the system monitor session and is valid only if \*FNCICF is specified for the **Device type (TYPE)** parameter.

Top

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## Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

\*NO

This device is not varied on automatically at IPL.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

---

## Maximum length of request unit (MAXLENRU)

Specifies the maximum request unit (RU) length allowed.

\*CALC

The system calculates the value to use.

*maximum-length-request-unit*

Specify a value in the range of 8 through 4096 bytes as the maximum length for incoming request units.

**Note:** \*CALC is the only allowed value for a 3624, 3694, or 4704 device type. If \*FNCICF is specified for the **Device type (TYPE)** parameter and attached to either a 3694, 4730, 4731, 4732, or 4736 controller, \*CALC or 256 are the only allowed values.

Top

---

## Device class (DEVCLS)

Specifies the device class for this device.

\*NONE

This device description does not use SNA pass-through support.

\*SNPT

This device description is for a display station connected to an SNA pass-through advanced program-to-program communications (APPC) controller. SNA pass-through support allows the user to connect this display station with host logical unit (LU) types 0 through 3 applications.

Top

---

## Activation timer (ACTTMR)

Specifies the amount of time (in seconds) to wait for the device to respond to the activation request from the host IBM System i5. If the device does not respond within this time, it is considered not available.

**Note:** This parameter is valid only on switched lines and when \*SNPT is specified for the DEVCLS parameter.

This parameter is valid only when \*SNPT is specified for the DEVCLS parameter.

### 170

Specifies the activate time of 170 seconds.

#### *activation-timer*

Specify a number ranging from 1 through 2550 indicating the number of seconds before the device is considered not available.

Top

---

## Inactivity timer (INACTTMR)

Specifies, for devices connected using SNA pass-through support, a timeout value that measures the amount of time that the device is not bound to a host application. When the timeout value is exceeded, the session is ended.

### \*NOMAX

No maximum inactivity time is tracked (no inactivity timer is to be enforced).

### \*SEC15

A 15-second time-out period is used.

### \*SEC30

A 30-second time-out period is used.

#### *inactivity-timer*

Specifies a time-out value in minutes.

Top

---

## SNA pass-through device desc (SNPTDEV)

Specifies the name of the associated SNA pass-through device that is attached to a host or advanced program-to-program communications (APPC) controller.

This parameter is valid only when \*SNPT is specified for the DEVCLS parameter.

### \*NONE

No name is specified.

*associated-device-name*

Specify the name of a device that is attached to a host or an APPC controller that is associated with this device.

Top

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## SNA pass-through group name (SNPTGRP)

Specifies the name configured for a group of host devices in a configuration list (see CRTCFGL command). This indicates that this device is associated with any one of the devices in that group which is available.

This parameter is valid only when \*SNPT is specified for the DEVCLS parameter.

### \*NONE

No name is specified.

*group-name*

Specify the name configured for a group of host devices that must be associated with this device.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## **Examples**

### **Example 1: Changing a Finance Device Description**

```
CHGDEVFNC  DEVD(FNCDSP1)  ONLINE(*YES)
```

This command changes the device description for the finance device FNCDSP1 so that the device will be varied on at IPL.

### **Example 2: Creating a Finance Device Description**

```
CRTDEVFNC  DEVD(FNCDSP1)  TYPE(*FNCICF)  LOCADR(01)  
CTL(FNCCTL1)
```

This command creates a finance device description named FNCDSP1. This is an ICF finance device with an address of X'01'. It is attached to the finance controller FNCCTL1.

Top

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## **Error messages**

### **\*ESCAPE Messages**

#### **CPF261A**

Device description &1 not created due to errors.







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## Create Device Desc (SNA Host) (CRTDEVHOST)

Where allowed to run: All environments (\*ALL)  
Threatsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (SNA Host) (CRTDEVHOST) command creates a device description for a Systems Network Architecture (SNA) host system device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

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### Parameters

Keyword	Description	Choices	Notes
DEV D	Device description	<i>Name</i>	Required, Positional 1
LOCADR	Local location address	01-FF	Required, Positional 2
RMTLOCNAME	Remote location	<i>Communications name</i>	Required, Positional 3
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
APPTYPE	Application type	*RJE, *EML, *PGM	Optional
MAXLENRU	Maximum length of request unit	*CALC, 241, 245, 247, 256, 497, 501, 503, 512, 768, 1009, 1015, 1024, 1280, 1536, 1792, 2048, 2304, 2560, 2816, 3072, 3328, 3584, 3840, 4096	Optional
EMLDEV	Emulated device	3278, 3284, 3286, 3287, 3288, 3289	Optional
EMLKBD	Emulated keyboard	*UPPER, *LOWER	Optional
EMLNUMLCK	Emulated numeric lock	*NO, *YES	Optional
EMLWRKSTN	Emulation work station	<i>Name</i> , *ANY	Optional
ENDSSNHOST	End session with host	*UNBIND, *RSHUTD	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEPLOCNAME	Dependent location name	<i>Communications name</i> , *NONE	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEV D)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Local location address (LOCADR)

Specifies the local location address for this device.

Valid values range from 01 to FF.

Top

---

## Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

---

## Application type (APPTYPE)

Specifies what application type is used by this device.

### \*RJE

The application is BSC Remote Job Entry (RJE).

### \*EML

The application is 3270 device emulation, using the 3270 Device Emulation Utility, or the 3270 program interface support provided in the System/38 environment.

### \*PGM

This device is used for program-to-program communications.

Top

---

## Maximum length of request unit (MAXLENRU)

Specifies the maximum request unit (RU) length allowed.

\*CALC

The system determines the best value to use.

This is the recommended value.

*maximum-length-request-unit*

Specify a value, 256 through 4096, in amounts of 256, to be used as the maximum length for incoming request units. Values 241, 247, 497, 503, 1009, and 1015 can also be specified but are valid only if the device is attached to an X.25 network.

Top

---

## Emulated device (EMLDEV)

Specifies that this program device entry is used to send and receive 3270 data streams. The emulation device parameter consists of an emulation device type and an emulation device data format. The emulation device data format specifies the format of the type 3270 data stream being sent or received. A 20- or 32-byte common header that contains type 3270 command and data flow information is located at the start of the I/O buffer that is sending or receiving the type 3270 data stream. This parameter applies only to SNUF communications. This parameter can be specified as a list of two values (elements) or as a single value (\*NONE).

3278

This device is used to emulate a 3278 display device.

3284

This device is used to emulate a 3284 printer device.

3286

This device is used to emulate a 3286 printer device.

3287

This device is used to emulate a 3287 printer device.

3288

This device is used to emulate a 3288 printer device.

3289

This device is used to emulate a 3289 printer device.

Top

---

## Emulated keyboard (EMLKBD)

Specifies the type of 3278 display keyboard that is emulated. This parameter is valid only when \*EML is specified for the **Application type (APPTYPE)** parameter.

### \*UPPER

A 3270 display device keyboard is emulated with uppercase characters only.

### \*LOWER

A 3270 display device keyboard is emulated with uppercase and lowercase characters.

Top

---

## Emulated numeric lock (EMLNUMLCK)

Specifies whether numeric input fields only allow numeric data on a 5250 keyboard. The value can be specified for this parameter only if \*EML is specified for the **Application type (APPTYPE)** parameter.

### \*NO

3270 emulation allows any data to be typed in the numeric input fields.

### \*YES

3270 emulation allows only numeric data to be typed in the numeric input fields. Valid numeric data include the characters 0 through 9 and symbols + - , . and blank.

Top

---

## Emulation work station (EMLWRKSTN)

The emulation work station associates an emulation device with a real display or printer device. The device address is reserved for use exclusively by that work station. If no device or \*ANY is specified, any work station can use the emulation device.

### \*ANY

Any work station can use the emulation device.

*work-station*

Specify the name for the work station that is to use this emulation device.

Top

---

## End session with host (ENDSSNHOST)

Specifies how the host device ends a session with the host system. The ENDSSNHOST parameter can be changed at any time and takes effect immediately after the change occurs.

### \*UNBIND

The host device sends the SNA command requesting the IBM System i5 to end the session.

### \*RSHUTD

The host device sends the SNA command requesting the host system to end the session.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Dependent location name (DEPLOCNAME)

Specifies the dependent local location name used for Dependent LU Requester (DLUR), providing additional security for the connection. If this name is filled in, an activation request (SNA ACTLU) from a Dependent LU Server (DLUS) node must reference this name or it is rejected.

Remote DLUS nodes may optionally accept unsolicited reply PSIDs (Product Set IDs) from the IBM System i5 for auto-definition of LUs at the DLUS node. If so, then this name will be sent to the DLUS node in the reply PSID and it will be returned on the ACTLU request.

If unsolicited reply PSIDs are not supported by the DLUS node, then there will have to be close coordination of the PU name definitions on both systems.

### \*NONE

No location name is defined.

### *dependent-location-name*

Specify the dependent location name used for DLUR applications.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTDEVHOST  DEVD(COMMDSP1)  LOCADR(FE)
             RMTLOCNAME(SYS) CTL(HOSTCTL001)
             APPTYPE(*EML)  EMLDEV(3284)
```

This command creates a device description for an SNA host communications device named COMMDSP1. The address of the device is X'FE'. It is attached to the controller HOSTCTL001 and communicates with SYS. This device uses 3270 emulation to emulate a 3284 printer.

Top

---

## Error messages

### \*ESCAPE Messages

#### **CPF261A**

Device description &1 not created due to errors.

Top

---

## Create Device Desc (Intra) (CRTDEVINTR)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (Intrasystem) (CRTDEVINTR) command creates an intrasystem (INTRA) device which allows two programs to communicate with each other within the same system as though communicating across a transmission protocol (TP) line.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Positional 1
RMTLOCNAME	Remote location	<i>Communications name</i>	Required, Positional 2
ONLINE	Online at IPL	<b>*YES</b> , *NO	Optional
TEXT	Text 'description'	<i>Character value</i> , *SAME, <b>*BLANK</b>	Optional
AUT	Authority	<i>Name</i> , <b>*CHANGE</b> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

Top

---

### Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

Top

---

### Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

\*YES

This device is varied on automatically at IPL.

\*NO

This device is not varied on automatically at IPL.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top



---

## Examples

```
CRTDEVINTR  DEVD(INTRALOC)  RMTLOCNAME(INTRARMT)
```

This command creates a device description named INTRALOC for intrasystem communications with a remote location named INTRARMT.

[Top](#)

---

## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

[Top](#)



## Create Device Desc (Media Lib) (CRTDEVMLB)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Device Description (Media Library) (CRTDEVMLB) command creates a device description for a media library device.

Initially, all tape drive resources associated with this device description are allocated for use by this system. To change the allocation of drive resources within a tape library, use the Work with Media Library Status (WRKMLBSTS) command or the Vary Configuration (VRYCFG) command.

**Note:** Allocating drives is only allowed when DEVCLS(\*TAP) is specified.

More information about using this command is in the Local Device Configuration book, SC41-5121.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEVDD	Device description	<i>Name</i>	Required, Key, Positional 1
DEVCLS	Device class	*OPT, *TAP	Required, Key, Positional 2
RSRCNAME	Resource name	<i>Name</i> , *NONE	Required, Key, Positional 3
TYPE	Device type	<i>Character value</i> , *RSRCNAME	Optional, Key
ONLINE	Online at IPL	*YES, *NO	Optional
UNLOADWAIT	Unload wait time	<i>Character value</i> , *SYSGEN	Optional
MAXDEVTIME	Maximum device wait time	<i>Character value</i> , *SYSGEN	Optional
RSCALCPTY	Resource allocation priority	<i>Character value</i> , *JOB	Optional
INLMNTWAIT	Initial mount wait time	<i>Character value</i> , *JOB, *IMMED, *NOMAX	Optional
EOVMNTWAIT	End of volume mount wait time	<i>Character value</i> , *JOB, *IMMED, *NOMAX	Optional
GENCTGID	Generate cartridge ids	*VALID, *SYSGEN	Optional
ROBOTDEV	Robot device descriptions	Single values: *NONE Other values (up to 2 repetitions): <i>Name</i>	Optional
ROBOTHOST	Robot host	Single values: *NONE Other values (up to 2 repetitions): <i>Character value</i>	Optional
LCLINTNETA	Local internet address	<i>Character value</i> , *NONE	Optional
MSGQ	Message queue	Single values: *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional

Keyword	Description	Choices	Notes
AUT	Authority	Name, <u>*CHANGE</u> , *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

## Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Device class (DEVCLS)

Specifies the class of the media library being created.

### \*OPT

The device is an optical media library.

### \*TAP

The device is a tape media library.

Top

---

## Resource name (RSRCNAME)

Specifies the resource name that identifies the auxiliary storage pool (ASP) by which a collection of disks is known.

A resource name must be provided before the device can be varied on.

### \*NONE

No resource name is specified at this time.

### *resource-name*

Specify the name that identifies the media library device hardware on the system.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with TYPE(\*STG) specified to determine the resource name.

Top

---

## Device type (TYPE)

Specifies the type of device this description represents.

**Note:** The device type is used to support prompting of this command; the value is not saved as part of the device description.

### \*RSRCNAME

The device type is determined from the resource name parameter.

Any of the following device types, listed in numeric order, are valid:

- 3494
- 3495
- 3570
- 3590
- 3995
- 3996
- 399F
- 9427
- 9429

**Note:** Device types 3995, 3996, and 399F are valid only when DEVCLS(\*OPT) is specified.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

Top

---

## Unload wait time (UNLOADWAIT)

Specifies the amount of time the system waits for another request to use the mounted volume before unloading the volume if there are outstanding requests for an available drive.

**Note:** This parameter is valid only when DEVCLS(\*OPT) is specified.

### \*SYSGEN

The system default is used.

### *unload-wait-time*

Specify the number of seconds to wait. Valid values range from 1 through 120.

---

## Maximum device wait time (MAXDEVTIME)

Specifies the maximum number of minutes a volume can remain mounted in an internal device if there are requests for other volumes.

**Note:** This parameter is valid only when DEVCLS(\*OPT) is specified, and is ignored when \*DEVCLS(\*TAP) is specified.

### \*SYSGEN

The system default is used.

This allows a maximum device wait time to be specified for each library device user rather than the same value for each user of the library device.

### \*NOMAX

The requests will wait until a tape resource is available.

**Note:** This value is valid for tape devices only.

### *max-device-time*

For optical devices, specify the number of minutes the volume can remain mounted. Valid values range from 1 through 60. For tape devices, specify the number of minutes a request will wait for allocation of a tape resource. Valid values range from 1 through 600.

---

## Resource allocation priority (RSCALCPTY)

Specifies the resource allocation priority.

**Note:** This parameter is valid only when DEVCLS(\*TAP) is specified.

### \*JOB

The priority of the job is used as the resource allocation priority.

### *resource-allocation-priority*

Specify the priority this job is given when requesting a resource. Valid values range from 1 (highest) through 99 (lowest).

---

## Initial mount wait time (INLMNTWAIT)

Specifies the maximum amount of time a request will wait for allocation of a tape resource for the initial mount.

**Note:** This parameter is valid only when DEVCLS(\*TAP) is specified.

### \*JOB

The allocation wait time is determined by the default wait time attribute of the job requesting the allocation, rounded up to the nearest minute.

### \*IMMED

The request will not wait for a tape resource to become available.

### \*NOMAX

The request will wait until a tape resource is available.

### *initial-mount-wait-time*

Specify the number of minutes a request will wait for allocation of a tape resource. Valid values range from 1 through 600 minutes.

Top

---

## End of volume mount wait time (EOVMNTWAIT)

Specifies the maximum amount of time a request will wait for allocation of a tape resource for the end of volume mount.

**Note:** This parameter is valid only when DEVCLS(\*TAP) is specified.

### \*JOB

The allocation wait time is determined by the default wait time attribute of the job requesting the allocation, rounded up to the nearest minute.

### \*IMMED

The request will not wait for a tape resource to become available.

### *end-of-volume-mount-wait-time*

Specify the number of minutes a request will wait for allocation of a tape resource. Valid values range from 1 through 600 minutes.

Top

---

## Generate cartridge ids (GENCTGID)

Specifies how the cartridge identifiers are assigned to each volume for tape libraries without bar code readers.

### \*VOLID

Specifies that the volume identifier is used as the cartridge identifier. Cartridge identifiers can be assigned by mounting each volume and reading the volume identifier.

### \*SYSGEN

Specifies that the system generate the cartridge identifiers for each volume. If system-generated identifiers are used, tape operations must use the generated cartridge identifiers. The cartridge identifiers are assigned sequentially in the form SLT001, SLT002, SLT003, and so on.

Top

---

## Robot device descriptions (ROBOTDEV)

Specifies the name of the device description representing the robot for library devices with separate robots.

Top

---

## Robot host (ROBOTHOST)

Specifies the TCP/IP host name or Internet address of the robotic library manager. A maximum of 2 robot library managers can be specified.

### \*NONE

No robotic host is specified at this time.

### *host-name*

The specified name of the robotic library manager. The user may enter the robot host name by entering the robot host name or the domain qualified robot host name. The domain qualified robot host name allows input of 255 bytes.

### *host-internet-address*

The specified address of the robotic library manager. The internet address must be of the form ddd.ddd.ddd.ddd where ddd is a decimal number ranging from 0 to 255. This decimal number should not contain leading zeros. If the host internet address is entered from a command line, the address must be enclosed in apostrophes.

Top

---

## Local internet address (LCLINTNETA)

Specifies the local internet address of the interface that is connecting to the robot library manager. This is the interface the operating system will start when TCP/IP needs to be started to use the tape media library.

### \*NONE

No TCP/IP address is specified at this time.



### *local-ip-address*

Specify the local internet address to be started. The internet address must be of the form ddd.ddd.ddd.ddd where ddd is a decimal number ranging from 0 to 255. This decimal number should not contain leading zeros. If the local internet address is entered from a command line, the address must be enclosed in apostrophes.

Top

---

## Message queue (MSGQ)

Specifies the message queue to which operational messages for this device are sent.

The possible qualified names are:

### **\*SYSOPR**

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

### *message-queue-name*

Specify the name of the message queue to which operational messages are sent.

### **\*LIBL**

All libraries in the job's library list are searched until the first match is found.

### **\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

### *library-name*

Specify the name of the library to be searched.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### **\*BLANK**

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## **Examples**

```
CRTDEVMLB  DEVD(LIB01)  DEVCLS(*OPT)
           RSRCCNAME(LIB01)  ONLINE(*YES)
```

This command creates a device description for a media library device named LIB01. The library is an optical library and the physical resource name is LIB01. The device description is varied on at IPL.

Top

---

## **Error messages**

### **\*ESCAPE Messages**

#### **CPF261A**

Device description &1 not created due to errors.

#### **CPF67B0**

Tape resource &2 not in specified library device

#### **CPF67D1**

Library device description not created

Top

---

## Create Device Desc (Network) (CRTDEVNET)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (Network) (CRTDEVNET) command creates a device description for a network device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Positional 1
TYPE	Device type	*TCPIP, *USRDFN	Required, Positional 2
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

Top

---

### Device type (TYPE)

Specifies the type of device this description represents.

\*TCPIP

\*TCPIP - Transmission Control Protocol/Internet Protocol

\*USRDFN

This device is attached to a network that is supported by a program using the user-defined communications Application Program Interface.

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this object is attached.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTDEVNET  DEVD(NETDEV02)  TYPE(*TCPIP)
```

This command creates a device description for a network device named NETDEV02.

Top

---

## Error messages

\*ESCAPE Messages

**CPF261A**

Device description &1 not created due to errors.

Top



## Create Device Desc (NWSH) (CRTDEVNWSH)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Device Description (NWSH) (CRTDEVNWSH) command creates a device description for a network server host adapter (NWSH) device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Key, Positional 1
RSRCNAME	Resource name	<i>Name</i>	Required, Key, Positional 2
LCLIFC	Local (target) interface	<i>Element list</i>	Required, Positional 3
	Element 1: Subnet mask	<i>Character value</i>	
	Element 2: Port speed	<b>*AUTO</b>	
	Element 3: Duplex	<b>*AUTO</b>	
	Element 4: Local SCSI interface	<i>Element list</i>	
	Element 1: Internet address	<i>Character value</i>	
	Element 2: Gateway address	<i>Character value</i> , <b>*NONE</b>	
	Element 3: SCSI TCP port	1024-65535, <b>3260</b> , 860	
	Element 5: Local LAN interface	<i>Element list</i>	
	Element 1: Internet address	<i>Character value</i>	
	Element 2: Gateway address	<i>Character value</i> , <b>*NONE</b>	
	Element 3: Virtual Ethernet base UDP port	1024-65471, <b>8801</b>	
	Element 6: Cable connection	<b>*NETWORK</b> , <b>*DIRECT</b>	
	ONLINE	Online at IPL	
MSGQ	Message queue	Single values: <b>*SYSOPR</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <b>*LIBL</b> , <b>*CURLIB</b>	
CMNRCYLMT	Recovery limits	Single values: <b>*SYSVAL</b> Other values: <i>Element list</i>	Optional
	Element 1: Count limit	0-99, <b>2</b>	
	Element 2: Time interval	0-120, <b>5</b>	
TEXT	Text 'description'	<i>Character value</i> , <b>*BLANK</b>	Optional
AUT	Authority	<i>Name</i> , <b>*CHANGE</b> , <b>*ALL</b> , <b>*USE</b> , <b>*EXCLUDE</b> , <b>*LIBCRTAUT</b>	Optional

---

## Device description (DEV D)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Resource name (R SRCNAME)

Specifies the resource name that identifies the hardware that the description represents.

Use the Work with Hardware Resources (WRKHDWRSC) command with \*CMN specified for the TYPE parameter to determine the resource name.

This is a required parameter.

*name*

Specify the resource name of the network server host adapter.

Top

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## Local (target) interface (LCLIFC)

Specifies the local (target) interface for a network server host adapter, which consists of a subnet mask, port speed, duplex, a local Small Computer System Interface (SCSI) configuration, a local Local Area Network (LAN) configuration, and type of cable connection.

This is a required parameter.

### Element 1: Subnet mask

*character-value*

Specify the subnet mask associated with the local interface. See the *TCP/IP Fastpath Setup* book for general information about subnets.

Subnetting provides the capability to partition an internet domain. Specify the mask for the network subnet and host address fields of the internet address that defines a subnet. The subnet mask is in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. The subnet mask must mask off all bits of the network class's network ID portion of the internet address. For example, a subnet mask of 255.255.255.0 defines a Class B subnet consisting of all bits in the network portion of the internet address (this is given) and consisting of all bits in the third byte of an internet address. If the subnet mask is entered from a command line, it must be enclosed in apostrophes.

### Element 2: Port speed

Specifies the speed of the physical port described by this local interface.

\*AUTO



The hardware automatically determines the port speed.

### **Element 3: Duplex**

Specifies the duplex mode used by the physical port described by this local interface.

\*AUTO

The hardware automatically determines the duplex.

### **Element 4: Local SCSI interface**

Specifies the local SCSI interface configuration.

#### **Element 1: Internet address**

*character-value*

Specify the local internet address which the SCSI interface on the network server host adapter responds to. The internet address is specified in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. An internet address that has a binary value of all ones or all binary zeros for the network identifier (ID) portion or the host ID portion of the internet address is not valid. The internet address selected must be unique across the i5/OS TCP/IP configuration. If the local internet address is entered from a command line, the address must be enclosed in apostrophes.

#### **Element 2: Gateway address**

\*NONE

There is no gateway address.

*character-value*

Specify the gateway address for the internet address associated with the SCSI interface, in the form *ddd.ddd.ddd.ddd* where *ddd* is a decimal number ranging from 0 to 255. If the gateway address is entered from a command line, the address must be enclosed in apostrophes.

#### **Element 3: SCSI TCP port**

3260

Port 3260 will be used as the local SCSI TCP port.

*port-number*

Specify the local SCSI TCP port that the local SCSI interface will listen on for iSCSI traffic. The local SCSI interface internet address and TCP port together define an iSCSI target portal. The well-known TCP port number for iSCSI connections assigned by Internet Assigned Numbers Authority (IANA) is 3260 and this is the default iSCSI port number. The TCP port assigned by IANA as the iSCSI system port is 860. Valid values are 860 and the range 1024 through 65535.

## Element 5: Local LAN interface

Specifies the local LAN interface configuration.

### Element 1: Internet address

*character-value*

Specify the local internet address which the SCSI interface on the network server host adapter responds to. The internet address is specified in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. An internet address that has a binary value of all ones or all binary zeros for the network identifier (ID) portion or the host ID portion of the internet address is not valid. The internet address selected must be unique across the i5/OS TCP/IP configuration. If the local internet address is entered from a command line, the address must be enclosed in apostrophes.

### Element 2: Gateway address

\*NONE

There is no gateway address.

*character-value*

Specify the gateway address for the internet address associated with the LAN interface, in the form *ddd.ddd.ddd.ddd* where *ddd* is a decimal number ranging from 0 to 255. If the gateway address is entered from a command line, the address must be enclosed in apostrophes.

### Element 3: Virtual Ethernet base UDP port

8801

Port 8801 will be used as the Virtual Ethernet base UDP port.

*1024-65471*

Specify the lowest numbered User Datagram Protocol (UDP) port that the local LAN interface will use for virtual Ethernet communication with the remote server. Virtual Ethernet communication is encapsulated in UDP packets. Each virtual Ethernet adapter is

automatically assigned a UDP port from a range that begins at the specified base port number and ends at the base port number plus the number of configured virtual Ethernet adapters.

#### **Element 6: Cable connection**

Specifies the type of cable connection used by this local interface.

##### **\*NETWORK**

The cable for this local interface is connected to a network.

##### **\*DIRECT**

The cable for this local interface is connected directly to an interface on the remote system.

Top

---

### **Online at IPL (ONLINE)**

Specifies whether this object is automatically varied on at initial program load (IPL).

##### **\*NO**

This device is not varied on automatically at IPL.

##### **\*YES**

This device is varied on automatically at IPL.

Top

---

### **Message queue (MSGQ)**

Specifies the message queue to which operational messages for this device are sent.

#### **Single values**

##### **\*SYSOPR**

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

#### **Qualifier 1: Message queue**

*name*

Specify the name of the message queue to which operational messages are sent.

#### **Qualifier 2: Library**

##### **\*LIBL**

All libraries in the job's library list are searched until the first match is found.

## \*CURLIB

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*

Specify the name of the library to be searched.

Top

---

## Recovery limits (CMNRCYLMT)

Specifies the communications recovery limits to be used for this device description.

**Single values**

### \*SYSVAL

The recovery limits specified in the system value QCMNRCYLMT are used.

**Element 1: Count limit**

2

Two recovery attempts are made within the specified time interval.

*0-99*

Specify the number of recovery attempts to be performed by the system.

**Element 2: Time interval**

5

The specified number of recovery attempts are made within a 5-minute interval.

*0-120*

Specify the number of minutes within which recovery attempts are made.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

---

## Examples

```
CRTDEVNWSH  DEVD(DEVNWSH)  RSRNAME(LIN03)
             LCLIFC('255.255.255.128' *AUTO *AUTO
                   ('9.5.149.241' '9.5.149.129' 3260)
                   ('9.5.149.245' '9.5.149.122' 8801)
                   *DIRECT)
```

This command creates a network server host adapter description named DEVNWSH. DEVNWSH has an associated resource named LIN03. The local SCSI and the local LAN interfaces will have the specified TCP/IP internet addresses assigned. The local SCSI interface will use the default TCP port value, which is the well-known user TCP port number for iSCSI connections assigned by IANA. The local LAN interface will use the default Virtual Ethernet base UDP port value. The hardware will determine the port speed and duplex. The cable for this local SCSI interface is connected directly to an interface on the remote system.

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## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

[Top](#)

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## Create Device Desc (Optical) (CRTDEVOPT)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (Optical) (CRTDEVOPT) command creates a device description for an optical device. More information about using this command is in the Local Device Configuration book, SC41-5121.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
DEVD	Device description	<i>Name</i>	Required, Key, Positional 1
RSRCNAME	Resource name	<i>Name</i> , *NONE, *VRT	Required, Key, Positional 2
TYPE	Device type	<i>Character value</i> , *RSRCNAME, 6320, 6321, 632A, 632B, 6330, 6336	Optional, Key
LCLINTNETA	Local internet address	*NONE, *SRVLAN	Optional
RMTINTNETA	Remote internet address	<i>Character value</i>	Optional
NETIMGDIR	Network image directory	<i>Path name</i>	Optional
UID	User ID number	0-4294967295, <u>0</u>	Optional
GID	Group ID number	0-4294967295, <u>0</u>	Optional
ONLINE	Online at IPL	*YES, *NO	Optional
MSGQ	Message queue	Single values: *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEVD)

Specifies the name of the device description.

Top

---

## Resource name (RSRCNAME)

Specifies the resource name that identifies the hardware that the description represents.

### **\*NONE**

No resource name is specified. A resource name must be provided before the device can be varied on.

### **\*VRT**

The resource name will be generated by the operating system at the time the device description is created. The resource name will represent virtual (not physical) hardware. Once the IBM System i5 has created the maximum number of virtual hardware resources, the last created resource will be used for the device description.

**Note:** The resource name will not be removed if a device description is deleted. You may create a new device description for existing resources by specifying the resource by name.

### *resource-name*

Specify the name that identifies the media library device hardware on the system.

**Note:** Use the Work with Hardware Resources (WRKHDWRSC) command with TYPE(\*STG) specified to determine the resource name.

Top

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## Device type (TYPE)

Specifies the type of device this description represents.

**Note:** If the type (TYPE) parameter specified is not valid for the resource name (RSRCNAME) parameter specified, the OS will automatically configure the TYPE parameter.

### **\*RSRCNAME**

The device type is determined from the resource name (RSRCNAME) parameter.

For a list of the device types that are valid on this parameter, press F4 (Prompt) from the TYPE prompt.

Top

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## Local internet address (LCLINTNETA)

Specifies the TCP/IP interface to be used to communicate with the remote system when using virtual image files on a network.

**Note:** This parameter is not valid if \*NONE is specified for the **Resource name (RSRCNAME)** parameter, or if any value except 632B or \*RSRCNAME is specified for the **Device type (TYPE)** parameter.

### **\*NONE**



No internet address is specified. Specifying this value will prevent the use of network virtual image files.

#### **\*SRVLAN**

The value that was defined for the service tool server or the operations console (LAN) is specified.

Top

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## **Remote internet address (RMTINTNETA)**

Specifies the remote internet address of the Network File System (NFS) server where this virtual optical device will look for virtual image files.

**Note:** A value is required for this parameter if \*SRVLAN is specified for the **Local internet address (LCLINTNETA)** parameter.

#### *character-value*

The internet address is specified in the form, *nnn.nnn.nnn.nnn*, where *nnn* is a decimal number ranging from 0 through 255. Leading zeros in each part of the dotted decimal internet address are invalid and will be removed. An internet address is not valid if it has a value of all binary ones or zeros for the network identifier (ID) or host portion of the address. If the internet address is entered from the command line, the address must be enclosed in apostrophes.

Top

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## **Network image directory (NETIMGDIR)**

Specifies the network path on the Network File System (NFS) server containing the virtual image files that were prepared for use with this device.

**Note:** A value is required for this parameter if \*SRVLAN is specified for the **Local internet address (LCLINTNETA)** parameter.

#### *path-name*

Specify the network path on the NFS server containing the virtual image files. Up to 127 characters may be specified.

Top

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## **User ID number (UID)**

Specifies the ID number of the remote user profile on the Network File System (NFS) server.

**Note:** This parameter is only valid if \*SRVLAN is specified for the **Local internet address LCLINTNETA** parameter.

*0-4294967295*

Specify the ID number of the remote user profile on the NFS server.

Top

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## Group ID number (GID)

Specifies the ID number of the remote group profile on the Network File System (NFS) server.

**Note:** This parameter is only valid if \*SRVLAN is specified for the **Local internet address LCLINTNETA** parameter.

*0-4294967295*

Specify the ID number of the remote group profile on the NFS server.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

**Note:** The value for this parameter will be set to \*NO if \*SRVLAN is specified for the **Local internet address LCLINTNETA** parameter.

\*YES

This device is varied on automatically at IPL.

\*NO

This device is not varied on automatically at IPL.

Top

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## Message queue (MSGQ)

Specifies the message queue to which operational messages for this device are sent.

**Single values**

\*SYSOPR

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

**Qualifier 1: Message queue**

*name*

Specify the name of the message queue to which operational messages are sent.

**Qualifier 2: Library**

## **\*LIBL**

All libraries in the job's library list are searched until the first match is found.

## **\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

*name*

Specify the name of the library to be searched.

Top

---

## **Text 'description' (TEXT)**

Specifies the text that briefly describes the object.

### **\*BLANK**

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## **Authority (AUT)**

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library

containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Create an Optical Device Description

```
CRTDEVOPT DEVD(OPT01) RSRCTYPE(*OPT01) TYPE(*RSRCTYPE)
```

This command creates a device description for an optical device that is named OPT01. The device type is determined from the resource name.

### Example 2: Create a Virtual Optical Device Description

```
CRTDEVOPT DEVD(VRTOPT01) RSRCTYPE(*VRT) TYPE(*RSRCTYPE)
```

This command creates a device description for a virtual optical device that is named VRTOPT01. The device type is determined from the resource name. All virtual optical devices will be assigned a **TYPE** value of 632B.

### Example 3: Create a Virtual Optical Device Description When Using Virtual Image Files on a Network

```
CRTDEVOPT DEVD(VRTOPT02) RSRCTYPE(*VRT) LCLINTNETA(*SRVLAN)
          RMTINTNETA('9.5.1.1')
          NETIMGDIR('/MyPath/My Catalog Directory')
          UID(123) GID(26) ONLINE(*NO)
```

This command creates a device description for a virtual optical device that is named VRTOPT02. The device type is determined from the resource name. All virtual optical devices will be assigned a **TYPE** value of 632B. The **MODEL** will be 003, since the value \*SRVLAN is specified for **LCLINTNETA**. The device will look for virtual image files using the Network File System (NFS) server internet address specified for **RMTINTNETA**. The path name on the remote NFS server specified for **NETIMGDIR** will be used to locate the virtual image files. The user ID number specified for **UID** and the group ID number specified for **GID** identify the profiles that will be used on the remote NFS server. The device will not be varied on automatically at IPL.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

Top

## Create Device Desc (Printer) (CRTDEVPRT)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Device Description (Printer) (CRTDEVPRT) command creates a device description for a printer device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEVDD	Device description	<i>Name</i>	Required, Key, Positional 1
DEVCLS	Device class	*LCL, *RMT, *VRT, *SNPT, *LAN	Required, Key, Positional 2
TYPE	Device type	3287, 3812, 4019, 4201, 4202, 4207, 4208, 4214, 4216, 4224, 4234, 4245, 4247, 5204, 5219, 5224, 5225, 5256, 5262, 5553, 5583, 6252, 6404, 6408, 6412, *IPDS	Required, Key, Positional 3
MODEL	Device model	0, 1, 2, 3, 4, 10, 13, 200, 301, 302, 3E3, *ASCII, *POST, AS8, B01, CTA, D1, D2, T08, T12, T20, *IPDS, *LU3, 0000, 0001, 0002, 0003, 0004, 0010, 0013, 0200, 0301, 0302	Required, Key, Positional 4
LANATTACH	LAN attachment	*LEXLINK, *IP, *USRDFN	Optional
SWTLINLST	Switched line list	Values (up to 8 repetitions): <i>Name</i>	Optional
ADPTADR	LAN remote adapter address	000000000001-FFFFFFFFFFFF	Optional
ADPTTYPE	Adapter type	*INTERNAL, *EXTERNAL	Optional
ADPTCNNTYP	Adapter connection type	*PARALLEL, *SERIAL	Optional
EMLDEV	Emulated twinaxial device	3812, 5219, 5224, 5256	Optional
AFP	Advanced function printing	*NO, *YES	Optional
AFPATTACH	AFP attachment	*WSC, *APPC	Optional
PORT	Port number	0-65535	Optional
SWTSET	Switch setting	0, 1, 2, 3, 4, 5, 6	Optional
LOCADR	Local location address	00-FE	Optional
AUXPRT	Auxiliary printer	*YES, *NO	Optional
EMLASCII	Emulating ASCII device	*NO, *YES	Optional
ATTACH	Physical attachment	*DIRECT, *PTT, *MODEM, *WIRE3, *WIRE4, *EIA422	Optional
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
LNGTYPE	Language type	*SYSVAL, AGB, AGI, ALI, BGB, BLI, BRB, CAB, CAI, CLB, CSB, CYB, DMB, DMI, ESB, FAB, FAI, FNB, FNI, GKB, GNB, HNB, ICB, ICI, IRB, ITB, ITI, JPB, LTB, LVB, MKB, NCB, NEB, NEI, NWB, NWI, PKB, PLB, PRB, PRI, RMB, ROB, RUB, SFI, SGI, SKB, SPB, SPI, SQB, SSB, SSI, SWB, SWI, THB, TKB, TRB, UAB, UKB, UKI, USB, USI, YGI	Optional

Keyword	Description	Choices	Notes
PRTQLTY	Print quality	<u>*STD</u> , *DRAFT, *NLQ	Optional
FONT	Font	<i>Element list</i>	Optional
	Element 1: Identifier	<i>Character value, 2, 3, 5, 8, 10, 11, 12, 13, 18, 19, 20, 21, 25, 26, 30, 31, 38, 39, 40, 41, 42, 43, 44, 46, 49, 50, 51, 52, 55, 61, 62, 63, 66, 68, 69, 70, 71, 72, 74, 75, 76, 80, 84, 85, 86, 87, 91, 92, 95, 96, 98, 99, 101, 102, 103, 109, 110, 111, 112, 154, 155, 157, 158, 159, 160, 162, 163, 164, 167, 168, 173, 174, 175, 178, 179, 180, 181, 182, 183, 186, 187, 188, 189, 190, 191, 194, 195, 204, 205, 211, 212, 221, 222, 223, 225, 226, 229, 230, 232, 233, 234, 244, 245, 247, 248, 249, 252, 253, 254, 255, 256, 258, 259, 279, 281, 282, 285, 290, 300, 400, 434, 435, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 1051, 1053, 1056, 1351, 1653, 1803, 2103, 4407, 4427, 4535, 4919, 4939, 5047, 5067, 5687, 5707, 5815, 5835, 5943, 6199, 6219, 6327, 6347, 8503, 8523, 8631, 8651, 8759, 8779, 8887, 8907, 12855, 12875, 16951, 16971, 17079, 17099, 33335, 33355, 33463, 33483, 33591, 33601, 33719, 33729, 34103, 34123, 34231, 34251, 37431, 41783, 41803</i>	
	Element 2: Point size	0.1-999.9, <u>*NONE</u>	
FORMFEED	Form feed	<u>*TYPE</u> , *CONT, *CONT2, *CUT, *AUTOCUT	Optional
SEPDRAWER	Separator drawer	1-255, <u>*FILE</u>	Optional
SEPPGM	Separator program	Single values: <u>*NONE</u> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Separator program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <u>*LIBL</u> , *CURLIB	
NBRDRAWER	Number of drawers	1, 2, 3	Optional
PRTERMSG	Printer error message	<u>*INQ</u> , *INFO	Optional
MSGQ	Message queue	Single values: <u>*CTLD</u> , *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i> , <u>QSYSOPR</u>	
	Qualifier 2: Library	<i>Name</i> , <u>*LIBL</u> , *CURLIB	
MAXLENRU	Maximum length of request unit	<u>*CALC</u> , 241, 245, 247, 256	Optional
APPTYPE	Application type	<u>*NONE</u> , *NRF, *DEVINIT, *APPINIT	Optional
ACTTMR	Activation timer	1-2550, <u>170</u> , *NOMAX	Optional
INACTTMR	Inactivity timer	1-30, <u>*ATTACH</u> , *NOMAX, *SEC15, *SEC30	Optional
SNPTDEV	SNA pass-through device desc	<i>Name</i> , <u>*NONE</u>	Optional
SNPTGRP	SNA pass-through group name	<i>Name</i> , <u>*NONE</u>	Optional
LOGON	Host signon/logon command	<i>Character value</i> , <u>*NONE</u>	Optional
PACING	Pacing	1-7, <u>7</u>	Optional
LINESPEED	Line speed	<u>*TYPE</u> , 150, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, 38400	Optional
WORDLEN	Word length	<u>*TYPE</u> , 7, 8	Optional
PARITY	Type of parity	<u>*TYPE</u> , *EVEN, *ODD, *NONE, *MARK, *SPACE	Optional
STOPBITS	Stop bits	<u>*TYPE</u> , 1, 2	Optional
TRANSFORM	Host print transform	<u>*NO</u> , *YES	Optional
MFRTPMDL	Manufacturer type and model	<i>Character value</i>	Optional

Keyword	Description	Choices	Notes
PPRSRC1	Paper source 1	*MFRTYPMDL, *LETTER, *LEGAL, *EXECUTIVE, *LEDGER, *A3, *A4, *A5, *B4, *B5, *CONT80, *CONT132, *NONE	Optional
PPRSRC2	Paper source 2	*MFRTYPMDL, *LETTER, *LEGAL, *EXECUTIVE, *LEDGER, *A3, *A4, *A5, *B4, *B5, *CONT80, *CONT132, *NONE	Optional
ENVELOPE	Envelope source	*MFRTYPMDL, *MONARCH, *NUMBER9, *NUMBER10, *B5, *C5, *DL, *NONE	Optional
ASCII899	ASCII code page 899 support	*NO, *YES	Optional
IMGCFG	Image configuration	Character value, *NONE	Optional
MAXPNDRQS	Maximum pending requests	1-31, 6	Optional
PRTCVT	Print while converting	*NO, *YES	Optional
PRTRQSTMR	Print request timer	1-3600, *NOMAX	Optional
FORMDF	Form definition	Qualified object name	Optional
	Qualifier 1: Form definition	Name, F1C10110	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
CHRID	Character identifier	Single values: *SYSVAL Other values: Element list	Optional
	Element 1: Graphic character set	1-32767	
	Element 2: Code page	1-32767	
RMTLOCNAME	Remote location	Element list	Optional
	Element 1: Name or address	Character value	
LCLLOCNAME	Local location	Communications name, *NETATR	Optional
MODE	Mode	Communications name, *QSPWTR, *NETATR	Optional
IGCFEAT	DBCS feature	Element list	Optional
	Element 1: Device features	Character value	
	Element 2: Last code point	4141-FFFE	
USRDFNOPT	User-defined options	Single values: *NONE Other values (up to 4 repetitions): Character value	Optional
USRDFNOBJ	User-defined object	Single values: *NONE Other values: Element list	Optional
	Element 1: Object	Qualified object name	
	Qualifier 1: Object	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
	Element 2: Object type	*DTAARA, *DTAQ, *FILE, *USRIDX, *PSFCFG, *USRQ, *USRSPC	
USRDTATFM	Data transform program	Single values: *NONE Other values: Qualified object name	Optional
	Qualifier 1: Data transform program	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
USRDRVPGM	User-defined driver program	Single values: *NONE Other values: Qualified object name	Optional
	Qualifier 1: User-defined driver program	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
SYSDRVPGM	System driver program	Character value, *HPPJLDRV, *IBMPJLDRV, *NETSTNDRV, *IBMSNMPDRV, *IBMIPDRV	Optional
SECURECNN	Secure connection	*NO, *YES	Optional

Keyword	Description	Choices	Notes
VLDL	Validation list	Single values: <b>*NONE</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Validation list	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
PUBLISHINF	Publishing information	<i>Element list</i>	Optional
	Element 1: Support duplex	<b>*UNKNOWN, *SIMPLEX, *DUPLEX</b>	
	Element 2: Support color	<b>*UNKNOWN, *NOCOLOR, *COLOR</b>	
	Element 3: Pages per minute black	1-32767, <b>*UNKNOWN</b>	
	Element 4: Pages per minute color	1-32767, <b>*UNKNOWN</b>	
	Element 5: Location	<i>Character value, *BLANK, X''</i>	
	Element 6: Data streams supported	Single values: <b>*UNKNOWN</b> Other values (up to 5 repetitions): *PCL, *PS, *PDF, *IPDS, *SCS	
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
DEPLOCNAME	Dependent location name	<i>Communications name, *NONE</i>	Optional
RMTNETID	Remote network identifier	<i>Communications name, *NETATR, *NONE</i>	Optional
WSCST	Workstation customizing object	Single values: <b>*NONE</b> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Workstation customizing object	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
AUT	Authority	<i>Name, *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT</i>	Optional

Top

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## Device description (DEV D)

Specifies the name of the device description.

This is a required parameter.

Top

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## Device class (DEVCLS)

Specifies the device class for this display station or printer.

**\*LCL**

This device description is for a device connected to a local work station controller.

**\*RMT**

This device description is for a device connected to a remote work station controller.

**\*VRT**

This device description is for a virtual device.



## \*SNPT

This device description is for a printer connected to an SNA pass-through advanced program-to-program communications (APPC) controller. SNA pass-through support allows the user to connect this printer with host logical unit (LU) types 0 through 3 applications.

## \*LAN

The device description is for a printer connected directly to a local area network (LAN).

Top

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## Device type (TYPE)

Specifies the type of device this description represents.

This is a required parameter.

The valid values are:

- 3287
- 3812
- 4214
- 4234
- 4245
- 4247
- 5219
- 5224
- 5225
- 5256
- 5262
- 5553 (double-byte character set printer)
- 5583 (double-byte character set printer)
- 6252
- 6404
- 6408
- 6412
- \*IPDS

For ASCII devices only: The following device types are listed with their more common descriptions:

Type	Description
4019	IBM LaserPrinter
4201	IBM Proprinter II
4202	IBM Proprinter XL
4207	IBM Proprinter X24
4208	IBM Proprinter XL24
4216	IBM Personal Pageprinter

4224 IBM 4224 Printer  
4234 IBM 4234 Printer  
5204 IBM Quickwriter  
6252 IBM ImpactWriter

**Note:** Proprinter, Quickwriter, and ImpactWriter are registered trademarks of International Business Machines.

Top

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## Device model (MODEL)

Specifies the model number of the device for this description.

TYPE	MODEL
3287	0
3812	1
4214	2
4234	2
4245	T12, T20
4247	CTA
5219	D1, D2
5224	1, 2
5225	1, 2, 3, 4
5256	1, 2, 3
5262	1
5553	B01
5583	200
6252	T08
*IPDS	0
6404	CTA
6408	CTA
6412	CTA

For ASCII devices only:

**\*ASCII**

Specify this value if the model number cannot be easily determined for this printer. The system will assign a model number (if the device has a model number). The model number assigned by the system may not be the actual model number of your printer; see the following table to determine the model number which will be assigned by using \*ASCII. It is recommended that you determine your printer's model number if at all possible, and enter that number.

The possible choices are:

TYPE	MODEL
4019	1 (*ASCII)_
4201	2 (*ASCII), 3
4202	1 (*ASCII), 2, 3
4207	1 (*ASCII), 2
4208	1 (*ASCII), 2
4216	10 (*ASCII)
4224	301 (*ASCII), 302, 3E3
4234	13 (*ASCII)
5204	1 (*ASCII)
6252	AS8 (*ASCII)

Top

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## LAN attachment (LANATTACH)

Specifies the attachment of a printer when DEVCLS(\*LAN) is specified.

### \*LEXLINK

The printer is attached to lexlink.

### **\*IP**

The printer is attached to TCP/IP.

### **\*USRDFN**

The printer attachment is user-defined; either lexlink or TCP/IP.

Top

Specifies the name of the switched lines to which the printer is associated when DEVCLS(\*LAN) and LANATTACH(\*LEXLINK) or LANATTACH(\*USRDFN) are specified. The types of switched lines this printer may associate with are: frame relay direct, Token-Ring, Ethernet IEEE 802.3, and Ethernet with all standards specified.

A maximum of 8 switched lines can be specified.

Top

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## LAN remote adapter address (ADPTADR)

Specifies the 12-character hexadecimal LAN address of the remote printer when DEVCLS(\*LAN) and LANATTACH(\*LEXLINK) or LANATTACH(\*USRDFN) are specified. Valid values range from 000000000001 through FFFFFFFF0001.

---

## Adapter type (ADPTTYPE)

Specifies the type of LAN printer adapter to be used when DEVCLS(\*LAN) and LANATTACH(\*LEXLINK) or LANATTACH(\*USRDFN) are specified.

### \*INTERNAL

The printer has an internal LAN adapter card.

### \*EXTERNAL

The printer has an internal LAN adapter card.

---

## Adapter connection type (ADPTCNNTYP)

Specifies the type of ports supported by the external LAN printer adapter when DEVCLS(\*LAN) and ADPTTYPE(\*EXTERNAL) are specified.

**Note:** This parameter is ignored when ADPTTYPE(\*INTERNAL) is specified.

### \*PARALLEL

The LAN printer adapter supports one or more parallel ports.

### \*SERIAL

The LAN printer adapter supports one or more serial ports.

---

## Emulated twinaxial device (EMLDEV)

Specifies, for ASCII printers, the twinaxial printer type that the ASCII printer will emulate.

### **3812**

3812 model 1 emulation is valid for the following ASCII printers: 4019, 4216, and 5204.

### **5219**

5219 model D2 emulation is valid for all ASCII printers except 4201, 4202, and 4234.

### **5224**

5224 model 1 emulation is valid for all ASCII printers.

### **5256**

### **706** System i: Programming i5/OS commands Starting with COMMIT (Commit)

5256 model 3 emulation is valid for all ASCII printers.

Top

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## Advanced function printing (AFP)

Specifies whether or not this printer does advanced function printing. Most IPDS printers can be configured with AFP(\*YES) or AFP(\*NO). Most non-IPDS printers can be configured only with AFP(\*NO). This parameter is only used if \*LCL, \*RMT, or \*LAN is specified on the **Device class (DEVCLS)** parameter and \*IPDS is specified on the **Device type (TYPE)** parameter.

### \*NO

This printer is not used for advanced function printing.

### \*YES

This printer is used for advanced function printing.

Top

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## AFP attachment (AFPATTACH)

Specifies the type of attachment used for a printer. This parameter is used only if \*YES is specified for the **Advanced function printing (AFP)** parameter.

### \*WSC

3812 or 3816 printers are attached to a local or remote work station controller.

### \*APPC

3820, 3825, 3827, or 3835 printers are attached by LU 6.2 using APPC/APPN.

Top

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## Port number (PORT)

Specifies the port number for printer devices. Valid values range from 0 through 65535. Some printer devices may further restrict the valid value range.

For twinaxial attached printers: Valid values range from 0 through 7.

For printers attached to a TCP/IP network, where DEVCLS(\*LAN), TYPE(3812), and LANATTACH(\*IP) are specified:

**Note:** If the device supports the Simple Network Management Protocol (SNMP), SYSDRVPGM(\*IBMSNMPDRV), or the HP Printer Job Language (PJL), SYSDRVPGM(\*IBMPJLDRV), refer to the device's documentation, or contact the device manufacturer to determine the port number.

If the device supports the Internet Printing Protocol (IPP), SYSDRVPGM(\*IBMIPPDRV), the well known port number is 631.

For printers attached to the ASCII workstation controller: Valid values range from 0 through 17 and indicate the port of the ASCII workstation controller to which the printer is attached. Without the 12-port expansion feature, only ports 0 through 5 are valid. With the 12-port expansion feature, ports 6 through 17 are added.

For printers attached to a LAN, where DEVCLS(\*LAN) TYPE(3812), and LANATTACH(\*LEXLINK) or LANATTACH(\*USRDFN):

**Note:** If ADPTTYPE(\*EXTERNAL) is specified, the port number value indicates which parallel or serial port to use, if there is more than one port on the external LAN adapter. Valid values range from 0 - 17.

If ADPTTYPE(\*INTERNAL) is specified, the port number is not required.

Top

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## Switch setting (SWTSET)

Specifies the switch setting for local twinaxial devices.

Valid values range from 0 to 6.

Top

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## Local location address (LOCADR)

Specifies the local location address for this device.

The possible values range from 00 to FE. The type of controller to which the device is being attached determines which values are valid.

### Controller

#### Valid Values

5251 00, 02-09

5294 00-1B

5394 00-14

5494 00-37

3174 02-41

3274 02-41

### SNA Host

01-FE

4701 02-FE

4702 02-FE

4680 02-54

4684 02-FE

FBSS 02-FE

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## Auxiliary printer (AUXPRT)

Specifies, for ASCII printers, whether or not this printer description is for an auxiliary printer. An auxiliary printer is attached to an ASCII display station, instead of being physically cabled to the ASCII work station controller. All data sent to the printer passes through the display station.

### \*YES

Specifies that this printer is attached to the auxiliary port of an ASCII display.

### \*NO

Specifies that this printer is physically cabled to the ASCII work station controller.

For auxiliary printers, the following parameters must match those specified for the ASCII display to which this printer is attached:

- ATTACH (Physical attachment)
- LINESPEED (Line speed)
- WORDLEN (Word length)
- PARITY (Type of parity)
- STOPBITS (Stop bits)

Top

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## Emulating ASCII device (EMLASCII)

Specifies, for ASCII devices, whether the device being configured is emulating a supported ASCII device type (TYPE parameter). When an ASCII device is configured, choices for the following parameters are restricted to the valid range for that device:

- ATTACH (Physical attachment)
- LINESPEED (Line speed)
- WORDLEN (Word length)
- PARITY (Type of parity)
- STOPBITS (Stop bits)

For ASCII devices emulating supported ASCII device types, these restrictions may not be applicable (the emulating device might have a wider range of choices for these parameters than the emulated ASCII device does). When EMLASCII(\*YES) is specified, these parameter restrictions are not enforced; the user is allowed to enter the full range of values for these parameters, but also is responsible for verifying that the values selected are valid for the device being configured.

### \*NO

Specifies that the device being configured is one of the supported ASCII device types **Device type (TYPE)** parameter, and that the device-specific restrictions for the physical attachment, line speed, word length, type of parity, and stop bits parameters are to be enforced.

### \*YES

Specifies that the device being configured is emulating one of the supported ASCII device types (TYPE parameter), and that the device-specific restrictions for the physical attachment, line speed, word length, type of parity, and stop bits parameters are not enforced.

Top

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## Physical attachment (ATTACH)

Specifies, for ASCII display stations, the physical attachment of the display station to the ASCII work station controller.

### \*EIA422

The EIA-422 attachment (valid only for models 3101, 3151, 3161, 3162, 3163, and 3164) is used.

### \*DIRECT

Specifies EIA-232 Direct attachment.

### \*MODEM

Specifies EIA-232 modem attachment.

### \*PTT

Specifies Post Telephone and Telegraph (PTT) attachment.

### \*WIRE3

Specifies EIA-232 3-wire attachment.

### \*WIRE4

Specifies EIA-232 4-wire attachment.

Top

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## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.



---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

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## Language type (LNGTYPE)

For ASCII printers, describes the default country keyboard language identifier for this printer.

The following languages can be used by ASCII devices only if either host print transform or work station customization are also used: ALI, BGB, CSB, ESB, HNB, IRB, JPB, LTB, LVB, MKB, PKB, PLB, RMB, RUB, SKB, SQB, TRB, UAB, and YGI.

### \*SYSVAL

The system uses the QKBDTYPE system value.

### *language-type*

Specify the correct country keyboard language identifier for this printer from the following table.

#### Identifier

#### Language(Country) - ASCII Device Groups

<b>ALI</b>	Albania
<b>CLB</b>	Arabic X/Basic - D*
<b>AGB</b>	Austria/Germany - A, B
<b>AGI</b>	Austria/Germany Multinational - A, B
<b>BLI</b>	Belgium Multinational - B
<b>BRB</b>	Brazilian Portuguese
<b>BGB</b>	Bulgaria
<b>CAB</b>	Canadian French - A, B
<b>CAI</b>	Canadian French Multinational - A, B
<b>SPB</b>	Catalan
<b>YGI</b>	Croatia/Serbia (Latin)/Slovenia
<b>CYB</b>	Cyrillic
<b>CSB</b>	Czech Republic
<b>DMB</b>	Denmark - B
<b>DMI</b>	Denmark Multinational - B
<b>ESB</b>	Estonia

**FNB** Finland/Sweden - B  
**FNI** Finland/Sweden Multinational - B  
**FAB** France (Azerty) - A, B  
**FAI** France (Azerty) Multinational - A, B  
**GNB** Greek (see note)  
**NCB** Hebrew - D\*  
**HNB** Hungary  
**ICB** Iceland  
**ICI** Iceland Multinational  
**IRB** Iran (Farsi)  
**ITB** Italy - A, B  
**ITI** Italy Multinational - A, B  
**JPB** Japan Latin Extended  
**ROB** Latin-2/ROECE  
**LVB** Latvia  
**LTB** Lithuania  
**MKB** FYR Macedonia (Former Yugoslav Republic)  
**NEB** Netherlands  
**NEI** Netherlands Multinational  
**NWB** Norway - B  
**NWI** Norway Multinational - B  
**PLB** Poland  
**PRB** Portugal - B  
**PRI** Portugal Multinational - B  
**RMB** Romania  
**RUB** Russia  
**SQB** Serbia (Cyrillic)  
**SKB** Slovakia  
**SPB** Spain - B  
**SPI** Spain Multinational - B  
**SSB** Spanish Speaking - B  
**SSI** Spanish Speaking Multinational - B  
**SWB** Sweden - B  
**SWI** Sweden Multinational - B  
**SFI** Switzerland/France Multinational - B  
**SGI** Switzerland/Germany Multinational - B  
**THB** Thailand

<b>TKB</b>	Turkey (Qwerty)
<b>TRB</b>	Turkey (F)
<b>UAB</b>	Ukraine
<b>UKB</b>	United Kingdom - A, B
<b>UKI</b>	United Kingdom Multinational - A, B
<b>USB</b>	United States/Canada - A, B, C
<b>USI</b>	United States/Canada Multinational - A, B, C
<b>PKB</b>	Urdu
<b>YGI</b>	Languages of the former Yugoslavia

**Note:** The GNB code is the current identifier for Greece. The GKB code was used prior to V2R1, and continues to be supported, but provides fewer characters than the recommended GNB code.

Top

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## Print quality (PRTQLTY)

Specifies whether the default print quality for ASCII printers should be draft (\*DRAFT), standard (\*STD), or near-letter quality (\*NLQ), from least to best quality. All ASCII printer types (with all emulations) support this parameter. If the printer is emulating a 5219 (EMLDEV parameter), this quality setting is overridden by individual printer files sent to this printer.

**Note:** All twinaxial printer emulations support this parameter. If the ASCII printer is emulating a 5219 twinaxial printer, then this print quality setting can be overridden by individual print files sent to this printer.

### \*STD

Specifies standard quality setting.

### \*DRAFT

Specifies draft quality setting.

### \*NLQ

Specifies near letter quality setting.

Top

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## Font identifier (FONT)

Specifies the font identifier and the point size used by the 3812, 3816, 5219 printers (including ASCII printers emulating the 5219 printer), and IPDS printers. A font identifier (up to 10 digits) is used with this printer file. Each font identifier has an implied characters-per-inch (CPI) value. If an identifier or point size is not specified, the system automatically sets one.

**Note:** Some fonts may be substituted by the printer. Consult the various printer reference guides for details.

### Element 1: Font identifier

*identifier*

Specify the font identifier associated with this printer.

### Element 2: Point size

\*NONE

The point size is supplied by the system and is determined by the specified font identifier.

*point-size*

Specify a point size ranging from 0.1 through 999.9.

Top

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## Form feed (FORMFEED)

Specifies the form feed attachment used for this spooled file. This parameter determines how forms are fed into the printer. Not all printers support this parameter. Refer to the Create Printer File (CRTPRTF) command to determine if this parameter is supported.

**Note:** The FORMFEED parameter is overridden by the value specified on the PPRSRC1 parameter when the host print transform function is enabled.

\*TYPE

Form feed value is determined by the system based on printer type.

For MODEL(\*IPDS), this value cannot be determined accurately. You must select a value that is appropriate for the printer: \*CONT, \*CONT2, \*CUT, or \*AUTOCUT.

\*CONT

Continuous forms are used by the printer. Some printers (3812, 4216) don't have tractor feed attachments (they don't actually support continuous forms). But in some cases, \*CONT must be specified to match what the emulated twinaxial printer supports.

\*CONT2

Continuous forms are used by the printer. The form is fed from the secondary tractor feed attachment. The secondary tractor feed attachment must be on the printer device. This value is allowed for 4214, 4234, 4247, and \*IPDS printers.

\*CUT

Single-cut sheets are used by the printer. For cut sheets, the forms alignment message is not sent. This value is valid for all ASCII printers, except the 4216 Printer emulating a SCS 5219 Printer.

## \*AUTOCUT

Single-cut sheets are fed into the printer automatically. The printer must have the sheet feed attachment. The \*AUTOCUT feature is valid for 4207, 4208, 4216, 4224, and 5204 printers that are emulating a 5219 printer.

Top

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## Separator drawer (SEPDRAWER)

Specifies which drawer is selected for printing separators.

### \*FILE

The separator pages are printed on paper from the same drawer as the rest of the spooled file.

*separator-drawer*

Specify a value ranging from 1 through 255 to indicate the drawer from which the separator pages are printed.

**Note:** For some printers, SEPDRAWER(3) implies an envelope drawer.

Top

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## Separator program (SEPPGM)

Specifies a style of separator page by allowing you to call a user exit program while printing job and file separators.

### \*NONE

The separator pages are not changed.

*exit-program-name*

Specify an exit program name.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the job is used to locate the exit program. If no library is specified as the current library for the job, the QGPL library is used.

*library-name*

Specify the name of the library where the exit program is located.

Top

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## Number of drawers (NBRDRAWER)

Specifies, for ASCII printers defined with \*AUTOCUT for the form feed (FORMFEED parameter), whether the printer's sheet feed attachment supports 1, 2, or 3 drawers. This parameter is not applicable if form feed is \*CONT or \*CUT.

**Note:** The number of drawers parameter specifies how many drawers the printer physically supports, not which drawer the paper is selected from. The individual print files sent to the printer will dictate which drawer is selected.

1

One drawer is physically supported.

2

Two drawers are physically supported.

3

Three drawers are physically supported.

For the printers that support FORMFEED(\*AUTOCUT), the following number of drawers are supported:

1. For 4207-1 and 4208 printers, only NBRDRAWER(1) is valid.
2. For a 4224 printer, only NBRDRAWER(3) is valid.
3. For 4207-2, 4216, and 5204 printers, NBRDRAWER values of 1, 2, and 3, are supported.

**Note:** NBRDRAWER(3) implies that two paper drawers and an envelope drawer are used.

Top

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## Printer error message (PRTERMSG)

Specifies whether the device has inquiry messages or informational messages for recoverable errors. This parameter is not applicable for printers attached to ASCII work station controllers.

### \*INQ

Inquiry messages are sent for recoverable errors.

### \*INFO

Informational messages are sent for recoverable errors.

Top

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## Message queue (MSGQ)

Specifies the message queue to which operational messages for this device are sent.

### \*CTLD

Messages are sent to the message queue defined in the attached controller. The message queue is determined when the device is varied on.

### \*SYSOPR

Messages are sent to the system operator message queue (QSYS/QSYSOPR).

#### *message-queue-name*

Specify the name of the message queue to which operational messages are sent.

### \*LIBL

All libraries in the job's library list are searched until the first match is found.

### \*CURLIB

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

#### *library-name*

Specify the name of the library to be searched.

Top

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## Maximum length of request unit (MAXLENRU)

Specifies, for remote display stations and printers, the maximum request unit (RU) length (in bytes) allowed.

### \*CALC

The system determines the best value to use.

A value of \*CALC must be specified for those devices not attached to an X.25 network. \*CALC may be specified for devices attached to an X.25 network. In all instances, \*CALC is the recommended value.

#### *maximum-length-request-unit*

Specify 241 or 247. These values are valid only for devices attached to X.25 networks. If the recommended value of \*CALC is not specified, it is recommended that 241 be used for ELLC and 247 be used for QLLC. The values 245 and 256 can be specified, but the result is the same as specifying \*CALC.

Top

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## Application type (APPTYPE)

Specifies the application type used by this device.

### \*NONE

The device is not used for any application.

### \*NRF

The device is used for the Network Routing Facility application.

### \*DEVINIT

The device starts (initiates) the session.

### \*APPINIT

The application program starts (initiates) the session.

Top

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## Activation timer (ACTTMR)

Specifies the amount of time (in seconds) to wait for the device to respond to the activation request from the host IBM System i5. If the device does not respond within this time, it is considered not available.

**Note:** This parameter is valid only on switched lines and when \*SNPT is specified for the DEVCLS parameter.

### 170

The device waits 170 seconds.

### \*NOMAX

The device waits forever.

**Note:** \*NOMAX is valid only when DEVCLS(\*LAN) and AFP(\*YES) are specified.

### *activation-timer*

Specify a number indicating the number of seconds before the device is considered not available.

**Note:** If LANATTACH is \*LEXLINK, and the specified number of seconds has elapsed, an inquiry message is issued.

Top



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## Inactivity timer (INACTTMR)

Specifies an inactivity timer (time-out) value. This parameter also specifies what happens when the time-out value is exceeded, dependent on other attributes of the device:

- For devices connected using SNA pass-through (SNPT) support, the user is informed by a message to QSYSOPR and the session is ended when the amount of time that the device is not bound to a host application exceeds the time-out value. The user must reestablish the connection and session.
- For devices with an application type value of \*APPINIT, \*DEVINIT, or \*NRF, the session is ended when the device is inactive (the file opened against the device is closed and no additional requests to open files are received for the device) for a period of time that exceeds the time-out value.

**Note:** This timer is not used by devices allocated to a subsystem (normal interactive use) because the subsystem always has a file open for the device. The timer is used by batch jobs that open and close files for the device.

For all other attachments, valid values range from 1 through 30 minutes.

### \*ATTACH

This value varies by the value on the physical attachment (ATTACH parameter) and certain values on the device class (DEVCLS) and application type (APPTYPE) parameters.

1. For DEVCLS(\*SNPT) or APPTYPE(\*DEVINIT) support, \*ATTACH maps to \*NOMAX.
2. For DEVCLS(\*LAN), \*ATTACH maps to \*SEC15.
3. For APPTYPE(\*NRF) and APPTYPE(\*APPINIT) support, \*ATTACH maps to 1 minute.

### \*NOMAX

No maximum inactivity time is tracked (no inactivity timer is to be enforced).

### \*SEC15

A 15-second time-out period is used.

### \*SEC30

A 30-second time-out period is used.

### *inactivity-timer*

Specifies a time-out value in minutes.

Top

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## SNA pass-through device desc (SNPTDEV)

Specifies the name of the associated SNA pass-through device that is attached to a host or advanced program-to-program communications (APPC) controller.

### \*NONE

No name is specified.

### *associated-device-name*

Specify the name of a device that is attached to a host or an APPC controller that is associated with this device.

Top

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## **SNA pass-through group name (SNPTGRP)**

Specifies the name configured for a group of host devices in a configuration list (see CRTCFGL command). This indicates that this device is associated with any one of the devices in that group which is available.

### \*NONE

No name is specified.

### *group-name*

Specify the name configured for a group of host devices that must be associated with this device.

Top

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## **Host signon/logon command (LOGON)**

Specifies the sign-on (logon) text. This parameter is allowed when DEVCLS(\*SNPT) or APPTYPE(\*NRF) is specified. APPTYPE(\*NRF) specifies the logon string that is sent to the host system when a request is made to establish a session. DEVCLS(\*SNPT) specifies the sign-on (logon) text that is sent to the host system after starting SNA pass-through support.

This parameter also specifies the logon string that is sent to the system services control point (SSCP) on the host network when the file is opened for \*NRF.

### \*NONE

No text is sent to the host system.

### *host-logon-command*

Specify text that is sent to the host system. The text must be enclosed in apostrophes if it contains blanks or other special characters. All apostrophes within the text must be represented by two apostrophes. A maximum of 256 characters can be specified.

Top

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## Pacing value (PACING)

Specifies the SNA pacing value used for request/response units (RUs).

7

Specifies 7-bit word lengths.

*pacing-value*

Specify a value, ranging from 1 through 7.

Top

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## Line speed (LINESPEED)

Specifies the line speed in bits per second (bps).

\*TYPE The system uses the suggested setting for this device type. \*TYPE will select 19200 bits per second for all printers.

*line-speed*

Specify the line speed. Valid values are: 150, 300, 600, 1200, 1800, 2400, 3600, 4800, 7200, 9600, 19200, or 38400.

Top

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## Word length (WORDLEN)

Specifies, for ASCII devices, the word length (bits per character) used to communicate over the attachment between the ASCII work station controller and the device. For modem and Post Telephone and Telegraph (PTT) attachments, the word length must be the same as the word length selected for the modem. For auxiliary printers connected to the auxiliary port of a display station, the word length must be the same as the word length specified for the display's device description.

Some devices do not support all word lengths; verify that your device supports the word length you intend to use.

\*TYPE

The system uses the suggested setting for this device type.

\*TYPE selects 8-bit word lengths for all printers.

7

Specifies 7-bit word lengths.

8

Specifies 8-bit word lengths.

Top

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## Type of parity (PARITY)

Specifies, for ASCII devices, the type of parity used to communicate over the attachment between the ASCII work station controller and the device. For modem and Post Telephone and Telegraph (PTT) attachments, the type of parity must be the same as the type of parity selected for the modem. For auxiliary printers connected to the auxiliary port of a display station, the type of parity must be the same as the type of parity specified for the display's device description.

Some devices do not support all types of parity; verify that your device supports the type of parity you intend to use.

### \*TYPE

The system uses the suggested setting for this device type.

\*TYPE will select \*EVEN (Even parity) for all printers.

### \*EVEN

Specifies Even parity.

### \*ODD

Specifies Odd parity.

### \*NONE

Specifies that no parity bit is used.

### \*MARK

Specifies Mark parity (1 is used for the parity).

### \*SPACE

Specifies Space parity (0 is used for the parity).

Top

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## Stop bits (STOPBITS)

Specifies, for ASCII devices, the number of stop bits used to communicate over the attachment between the ASCII work station controller and the device. For modem and Post Telephone and Telegraph (PTT) attachments, the number of stop bits must be the same as the number of stop bits selected for the modem. For auxiliary printers connected to the auxiliary port of a display station, the number of stop bits must be the same as the number of stop bits specified for the display's device description.

Some devices do not support all numbers of stop bits; verify that your device supports the number of stop bits you intend to use.

**\*TYPE**

1

Specifies 1 stop bit.

2

Specifies 2 stop bits.

Top

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## Host print transform (TRANSFORM)

Specifies whether the printer uses host print transform support.

**\*NO**

The printer does not use host print transform support.

**\*YES**

The printer uses host print transform support.

Top

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## Manufacturer type and model (MFRTYPMDL)

Specifies the manufacturer, type, and model for a printer using the host print transform function.

*character-value*

Specify the corresponding manufacturer, type, and model for a printer.

The following list shows the values to be specified for the device you are using:

**Note:** If \*WSCSTxxx is specified for MFRTYPMDL, a workstation customizing object must be specified.

### Manufacturer Type and Model Table

*IBM2380	IBM 2380 Personal Printer Series II IBM 2380 Plus Printer
*IBM2381	IBM 2381 Personal Printer Series II IBM 2381 Plus Printer
*IBM2390	IBM 2390 Personal Printer Series II IBM 2390 Plus Printer
*IBM2391	IBM 2391 Personal Printer Series II IBM 2391 Plus Printer
*IBM3112	IBM 3112 Page Printer
*IBM3116	IBM 3116 Page Printer
*IBM3130	IBM 3130 Advanced Function Printer
*IBM3812	IBM 3812 Pageprinter
*IBM3816	IBM 3816 Pageprinter
*IBM3912HP	IBM 3912 Page Printer (HP Mode)
*IBM3916HP	IBM 3916 Page Printer (HP Mode)

\*IBM39302 IBM 39302 IBM 3930-02S Page Printer  
 IBM 39302 IBM 3930-02D Page Printer  
 \*IBM39303 IBM 39303 IBM 3930-03S Page Printer  
 IBM 39303 IBM 3930-03D Page Printer  
 \*IBM4019 IBM 4019 LaserPrinter  
 IBM 4019E LaserPrinter E  
 \*IBM4019HP IBM 4019 LaserPrinter (HP Mode)  
 IBM 4019E LaserPrinter E (HP Mode)  
 \*IBM4029 IBM 4029-010 LaserPrinter 5E  
 IBM 4029-020 LaserPrinter 6  
 IBM 4029-030 LaserPrinter 10  
 IBM 4029-040 LaserPrinter 10L  
 \*IBM4029HP IBM 4029-010 LaserPrinter 5E (HP Mode)  
 IBM 4029-020 LaserPrinter 6 (HP Mode)  
 IBM 4029-030 LaserPrinter 10 (HP Mode)  
 IBM 4029-040 LaserPrinter 10L  
 (HP Mode)  
 \*IBM4037 IBM 4037 5E Printer  
 \*IBM4039HP IBM 4039 LaserPrinter 10D (HP Mode)  
 IBM 4039 LaserPrinter 10D Plus  
 (HP Mode)  
 IBM 4039 LaserPrinter 10R (HP Mode)  
 IBM 4039 LaserPrinter 10R Plus  
 (HP Mode)  
 IBM 4039 LaserPrinter 12R (HP Mode)  
 IBM 4039 LaserPrinter 12R Plus  
 (HP Mode)  
 IBM 4039 LaserPrinter 12L (HP Mode)  
 IBM 4039 LaserPrinter 12L Plus  
 (HP Mode)  
 IBM 4039 LaserPrinter 16L (HP Mode)  
 IBM 4039 LaserPrinter 16L Plus  
 (HP Mode)  
 \*IBM4070 IBM 4070 IJ (IBM Mode)  
 \*IBM4070EP IBM 4070 IJ (Epson Mode)  
 \*IBM4072 IBM 4072 ExecJet  
 \*IBM4076 IBM 4076 ExecJet II Printer (HP Mode)  
 \*IBM42011 IBM 4201-1 Proprinter  
 \*IBM42012 IBM 4201-2 Proprinter II  
 \*IBM42013 IBM 4201-3 Proprinter III  
 \*IBM42021 IBM 4202-1 Proprinter XL  
 \*IBM42022 IBM 4202-2 Proprinter II XL  
 \*IBM42023 IBM 4202-3 Proprinter III XL  
 \*IBM42071 IBM 4207-1 Proprinter X24  
 \*IBM42072 IBM 4207-2 Proprinter X24E  
 \*IBM42081 IBM 4208-1 Proprinter XL24  
 \*IBM42082 IBM 4208-2 Proprinter XL24E  
 \*IBM4212 IBM 4212 Proprinter 24P  
 \*IBM4216 IBM 4216-10 Personal Pageprinter  
 \*IBM4226 IBM 4226-302 Printer  
 \*IBM4230 IBM 4230-4S3 Printer (IBM Mode)  
 IBM 4230-4I3 Printer (IBM Mode)  
 \*IBM4232 IBM 4232-302 Printer (IBM Mode)  
 \*IBM4244ASF IBM 4244 Printer (single tractor feed  
 and ASF)  
 \*IBM4244DUAL IBM 4244 Printer (dual tractor feeds)  
 \*IBM4244MAN IBM 4244 Printer (single form feed or  
 manual selection)  
 \*IBM4247ASF IBM 4247 Printer (single tractor feed  
 and ASF)  
 \*IBM4247DUAL IBM 4247 Printer (dual tractor feeds)  
 \*IBM4247MAN IBM 4247 Printer (single form feed or  
 manual selection)  
 \*IBM4308 IBM Infoprint Color 8  
 \*IBM4312 IBM Network Printer 12  
 \*IBM4317 IBM Network Printer 17  
 \*IBM4320 IBM Infoprint 20

\*IBM4322 IBM Infoprint 21  
 \*IBM4324 IBM Network Printer 24  
 \*IBM4332 IBM Infoprint 32  
 \*IBM4340 IBM Infoprint 40  
 \*IBM47121 IBM 4712-1 Transaction Printer  
 \*IBM47122 IBM 4712-2 Transaction Printer  
 \*IBM47221 IBM 4722-1 Document Printer  
 \*IBM47222 IBM 4722-2 Document Printer  
 \*IBM4770 IBM 4770 InkJet Transaction Printer  
 \*IBM4912 IBM Infoprint 12  
 \*IBM5152 IBM 5152 Graphics Printer  
 \*IBM5201 IBM 5201-2 Quietwriter  
 \*IBM5202 IBM 5202-1 Quietwriter III  
 \*IBM5204 IBM 5204-1 Quickwriter  
 \*IBM5216 IBM 5216 Wheelprinter  
 \*IBM5575 IBM 5579-H02 Printer  
 IBM 5579-K02 Printer  
 IBM 5577-T02 Printer  
 IBM 5579-S02 Printer  
 IBM 5577-K02 Printer  
 IBM 5577-J02 Printer  
 IBM 5577-G02 Printer  
 IBM 5577-H02 Printer  
 IBM 5577-F02 Printer  
 IBM 5577-B02 Printer  
 IBM 5575-H02 Printer  
 IBM 5575-F02 Printer (with SBCS  
 Cartridge)  
 IBM 5575-B02 Printer (with SBCS  
 Cartridge)  
 IBM 5573-K02 Printer  
 IBM 5573-J02 Printer  
 IBM 5573-H02 Printer  
 IBM 5573-G02 Printer  
 IBM 5572-B02 Printer  
 IBM 5417-011 Printer  
 IBM 5407-011 Printer  
 IBM 5327-011 Printer  
 IBM 4208-502 Printer  
 \*IBM6400 IBM 6400 Printers (IBM Mode)  
 \*IBM6400EP IBM 6400 Printers (Epson Mode)  
 \*IBM6404 IBM 6404 Printers (IBM Mode)  
 \*IBM6404EP IBM 6404 Printers (Epson Mode)  
 \*IBM6408 IBM 6408-A00 Printer (IBM Mode)  
 IBM 6408-CTA Printer (IBM Mode)  
 \*IBM6408EP IBM 6408-A00 Printer (Epson Mode)  
 IBM 6408-CTA Printer (Epson Mode)  
 \*IBM6412 IBM 6412-A00 Printer (IBM Mode)  
 IBM 6412-CTA Printer (IBM Mode)  
 \*IBM6412EP IBM 6412-A00 Printer (Epson Mode)  
 IBM 6412-CTA Printer (Epson Mode)  
 \*IBMPAGES IBM 5589-H01 Printer  
 IBM 5588-H02 Printer  
 IBM 5587-H01 Printer  
 IBM 5586-H02 Printer  
 IBM 5585-H01 Printer  
 IBM 5584-K02 Printer  
 IBM 5584-H02 Printer  
 IBM 5584-G02 Printer  
 \*IBMPAGESNPB Same as \*IBMPAGES, but without text  
 positioning adjustments for a no-print  
 border  
 \*IBMPAGES300 IBM Network Printer 12 (with PAGES  
 feature)  
 IBM Network Printer 17 (with PAGES  
 feature)  
 IBM Network Printer 24 (with PAGES

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feature)
IBM Infoprint 20 (with PAGES feature)
IBM Infoprint 32 (with PAGES feature)
IBM Infoprint 40 (with PAGES feature)
*IBMPAGES300NPB Same as *IBMPAGES300, but without text
positioning adjustments for a no-print
border
*INFOPRINT8C IBM Infoprint Color 8
*INFOPRINT12 IBM Infoprint 12
*INFOPRINT20 IBM Infoprint 20
*INFOPRINT21 IBM Infoprint 21
*INFOPRINT32 IBM Infoprint 32
*INFOPRINT40 IBM Infoprint 40
*INFOPRINT70 IBM Infoprint 70
*INFOPRINT85 IBM Infoprint 2085
*INFOPRINT105 IBM Infoprint 2105
*INFOPRINT1116 IBM Infoprint 1116
*INFOPRINT1120 IBM Infoprint 1120
*INFOPRINT1125 IBM Infoprint 1125
*INFOPRINT1130 IBM Infoprint 1130
*INFOPRINT1140 IBM Infoprint 1140
*INFOPRINT1145 IBM Infoprint 1145
*INFOPRINT1220C IBM Infoprint Color 1220
*INFOPRINT1222 IBM Infoprint 1222
*INFOPRINT1226 IBM Infoprint 1226
*INFOPRINT1228C IBM Infoprint Color 1228
*INFOPRINT1312 IBM Infoprint 1312
*INFOPRINT1332 IBM Infoprint 1332
*INFOPRINT1334C IBM Infoprint Color 1334
*INFOPRINT1352 IBM Infoprint 1352
*INFOPRINT1354C IBM Infoprint Color 1354
*INFOPRINT1357C IBM Infoprint Color 1357
*INFOPRINT1372 IBM Infoprint 1372
*INFOPRINT1400C IBM Infoprint Color 14xx Series
Printer
*INFOPRINT1410 IBM Infoprint 1410 MFP
*INFOPRINT1412 IBM Infoprint 1412
*INFOPRINT1422 IBM Infoprint 1422
*INFOPRINT1500 IBM Infoprint 15xx Series Printer
*INFOPRINT1500C IBM Infoprint Color 15xx Series
Printer
*INFOPRINT1600 IBM Infoprint 16xx Series Printer
*INFOPRINT1600C IBM Infoprint Color 16xx Series
Printer
*INFOPRINT2000 IBM Infoprint 2000
*INFOPRINT2085 IBM Infoprint 2085
*INFOPRINT2105 IBM Infoprint 2105
*INFOPRINT2190 IBM Infoprint 2190
*INFOPRINT2210 IBM Infoprint 2210
*INFOPRINT2235 IBM Infoprint 2235
*INFOPRINT2705 IBM Infoprint 2105
*INFOPRINT2706 IBM Infoprint 2105ES
*INFOPRINT2761 IBM Infoprint 2060ES
*INFOPRINT2775 IBM Infoprint 2075ES
*INFOPRINT2785 IBM Infoprint 2085
*INFOPRINT2790 IBM Infoprint 2090ES
*INFOPRINT6500 IBM Infoprint 6500 (Epson Mode)
*CANLIPS3 Canon LIPS3 DBCS Printers
*CANLIPS3NPB Same as *CANLIPS3, but without text
positioning adjustments for a no-print
border
*CPQPM15 COMPAQ PageMark 15 (HP Mode)
*CPQPM20 COMPAQ PageMark 20 (HP Mode)
*EPAP2250 Epson ActionPrinter 2250
*EPAP3250 Epson ActionPrinter 3250
*EPAP5000 Epson ActionPrinter 5000
*EPAP5500 Epson ActionPrinter 5500

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*EPDFX5000	Epson DFX-5000
*EPDFX8000	Epson DFX-8000
*EPEPL7000	Epson EPL-7000
*EPEPL8000	Epson EPL-8000
*EPFX850	Epson FX-850
*EPFX870	Epson FX-870
*EPFX1170	Epson FX-1170
*EPLQ510	Epson LQ-510
*EPLQ570	Epson LQ-570
*EPLQ860	Epson LQ-860
*EPLQ870	Epson LQ-870
*EPLQ1070	Epson LQ-1070
*EPLQ1170	Epson LQ-1170
*EPLQ2550	Epson LQ-2550
*EPLX810	Epson LX-810
*EPSQ870	Epson SQ-870
*EPSQ1170	Epson SQ-1170
*ESCPDBCS	Epson ESC/P DBCS Printers
*HP11	HP LaserJet Series II
*HP11D	HP LaserJet IID
*HP11P	HP LaserJet IIP
*HP111	HP LaserJet III
*HP111D	HP LaserJet IIID
*HP111P	HP LaserJet IIIP
*HP111SI	HP LaserJet IIISi
*HP4	HP LaserJet 4
*HP5	HP LaserJet 5 series
*HP5SI	HP LaserJet 5Si
*HP6	HP LaserJet 6 series
*HP310	HP DeskJet 310
*HP320	HP DeskJet 320
*HP500	HP DeskJet 500
*HP520	HP DeskJet 520
*HP540	HP DeskJet 540
*HP550C	HP DeskJet 550C
*HP560C	HP DeskJet 560C
*HP1100	HP LaserJet 1100 series
*HP1200C	HP DeskJet 1200C
*HP1600C	HP DeskJet 1600C
*HP4000	HP LaserJet 4000 series
*HP5000	HP LaserJet 5000 series
*HP8000	HP LaserJet 8000 series
*HPCOLORLJ	HP Color LaserJet 5
*HPDBCS	HP LaserJet-compatible printers for Double Byte Character Set (DBCS) input
*HPPAINT	HP PaintJet HP PaintJet XL HP PaintJet XL300
*LEX2380	Lexmark Forms Printer 2380 Plus
*LEX2381	Lexmark Forms Printer 2381 Plus
*LEX2390	Lexmark Forms Printer 2390 Plus
*LEX2391	Lexmark Forms Printer 2391 Plus
*LEX4227	Lexmark 4227 Forms Printer
*LEXMARKC	Lexmark C Series Printer
*LEXMARKC510	Lexmark C510 Color Printer
*LEXMARKC750	Lexmark C750 Color Printer
*LEXMARKC752	Lexmark C752 Color Printer
*LEXMARKC910	Lexmark C910 Color Printer
*LEXMARKC912	Lexmark C912 Color Printer
*LEXMARKE	Lexmark E Series Printer
*LEXMARKE322	Lexmark E322 Printer
*LEXMARKE323	Lexmark E323 Printer
*LEXMARKE330	Lexmark E330 Printer
	Lexmark E332n Printer
*LEXMARKT	Lexmark T Series Printer
*LEXMARKT420	Lexmark T420 Printer
*LEXMARKT520	Lexmark T520 Printer

*LEXMARKT522	Lexmark T522 Printer
*LEXMARKT620	Lexmark T620 Printer
*LEXMARKT622	Lexmark T622 Printer
*LEXMARKT630	Lexmark T630 Printer
*LEXMARKT632	Lexmark T632 Printer
*LEXMARKT634	Lexmark T634 Printer
*LEXMARKW	Lexmark W Series Printer
*LEXMARKW812	Lexmark W812 Printer
*LEXMARKW820	Lexmark W820 Printer
*LEXMARKX422	Lexmark X422 MFP
*LEXOPTRA	Lexmark Optra Family (HP Mode)
*LEXOPTRAC	Lexmark Optra C Color Printer
*LEXOPTRAN	Lexmark Optra N Printer
*LEXOPTRAS	Lexmark Optra S Printer family
*LEXOPTRASC	Lexmark Optra SC Color Printer
	Lexmark Optra Color 1200 Printer
*LEXOPTRAT	Lexmark Optra T Printer series
*LEXOPTRAW	Lexmark Optra W Printer series
*NECP2	NEC P2 Pinwriter
*NECP2200	NEC P2200 Pinwriter
*NECP2200XE	NEC P2200 XE Pinwriter
*NECP5200	NEC P5200 Pinwriter
*NECP5300	NEC P5300 Pinwriter
*NECP6200	NEC P6200 Pinwriter
*NECP6300	NEC P6300 Pinwriter
*NECPCPR201	NEC PC-PR101 DBCS Printer
	NEC PC-PR201 DBCS Printer
*NONE	Printer supports page-descriptor language generated by the CVTIMG API. NOTE: Spoolfiles with device type of *SCS or *AFPDS cannot be processed by the Host Print Transform function for these printers.
*OKI184IBM	Okidata Microline 184 Turbo (IBM Mode)
*OKI320IBM	Okidata Microline 320 (IBM Mode)
*OKI321IBM	Okidata Microline 321 (IBM Mode)
*OKI390IBM	Okidata Microline 390 Plus (IBM Mode)
*OKI391IBM	Okidata Microline 391 Plus (IBM Mode)
*OKI393IBM	Okidata Microline 393 Plus (IBM Mode)
*OKI590IBM	Okidata Microline 590 (IBM Mode)
*OKI591IBM	Okidata Microline 591 (IBM Mode)
*OKI400	Okidata OL400 LED Page Printer
*OKI800	Okidata OL800 LED Page Printer
*OKI810	Okidata OL810 LED Page Printer
*OKI820	Okidata OL820 LED Page Printer
*OKI3410	Okidata Pacemark 3410
*PAN1123EP	Panasonic KX-P1123 (Epson Mode)
*PAN1124EP	Panasonic KX-P1124 (Epson Mode)
*PAN1124IEP	Panasonic KX-P1124i (Epson Mode)
*PAN1180EP	Panasonic KX-P1180 (Epson Mode)
*PAN1180IEP	Panasonic KX-P1180i (Epson Mode)
*PAN1191EP	Panasonic KX-P1191 (Epson Mode)
*PAN1624EP	Panasonic KX-P1624 (Epson Mode)
*PAN1654EP	Panasonic KX-P1654 (Epson Mode)
*PAN1695EP	Panasonic KX-P1695 (Epson Mode)
*PAN2123EP	Panasonic KX-P2123 (Epson Mode)
*PAN2124EP	Panasonic KX-P2124 (Epson Mode)
*PAN2180EP	Panasonic KX-P2180 (Epson Mode)
*PAN2624EP	Panasonic KX-P2624 (Epson Mode)
*PAN4410HP	Panasonic KX-P4410 (HP Mode)
*PAN4420HP	Panasonic KX-P4420 (HP Mode)
*PAN4430HP	Panasonic KX-P4430 (HP Mode)
*PAN4450IHP	Panasonic KX-P4450i (HP Mode)
*PAN4451HP	Panasonic KX-P4451 (HP Mode)
*PANASONIC2310	Panasonic DP-2310 Printer
*PANASONIC3010	Panasonic DP-3010 Printer
*PANASONIC3510	Panasonic DP-3510 Printer

\*PANASONIC3520 Panasonic DP-3520 Printer  
 \*PANASONIC4510 Panasonic DP-4510 Printer  
 \*PANASONIC4520 Panasonic DP-4520 Printer  
 \*PANASONIC6010 Panasonic DP-6010 Printer  
 \*PANASONIC6020 Panasonic DP-6020 Printer  
 \*PDF Portable Document Format  
 \*PDFEMBEDTT Portable Document Format. All TrueType font references are embedded in the output document.  
 \*PDFIBMWT Portable Document Format. References to IBM WorldType fonts shipped with the system are mapped to standard PDF font references.  
 \*RICOH1515 Ricoh Aficio 1515 Printer Series  
 \*RICOH2015 Ricoh Aficio 2015 Printer Series  
 \*RICOH2018 Ricoh Aficio 2018 Printer Series  
 \*RICOH2022 Ricoh Aficio 2022 Printer Series  
 \*RICOH2027 Ricoh Aficio 2027 Printer Series  
 \*RICOH2032 Ricoh Aficio 2032 Printer Series  
 \*RICOH2035 Ricoh Aficio 2035 Printer Series  
 \*RICOH2045 Ricoh Aficio 2045 Printer Series  
 \*RICOHAP400 Ricoh Aficio AP400 Printer Series  
 \*RICOHAP600N Ricoh Aficio AP600N Printer Series  
 \*RICOHAP900 Ricoh Aficio AP900 Printer Series  
 \*RICOHAP3200 Ricoh Aficio AP3200 Printer Series  
 \*RICOHAP4510 Ricoh Aficio AP4510 Printer Series  
 \*RICOHCL2000 Ricoh Aficio CL2000 Color Printer Series  
 \*RICOHCL3100 Ricoh Aficio CL3000e Color Printer Series  
 Ricoh Aficio CL3100N Color Printer Series  
 \*RICOHCL4000 Ricoh Aficio CL4000 Color Printer Series  
 \*RICOHCL5000 Ricoh Aficio CL5000 Color Printer Series  
 \*RICOHCL7000 Ricoh Aficio CL7000 Color Printer Series  
 \*RICOHCL7100 Ricoh Aficio CL7100 Color Printer Series  
 \*RICOHMP1100 Ricoh Aficio MP1100 Printer Series  
 \*RICOHMP1350 Ricoh Aficio MP1350 Printer Series  
 \*RICOHMP9000 Ricoh Aficio MP9000 Printer Series  
 \*RICOHSP4100N Ricoh Aficio SP4100N Printer Series  
 Ricoh Aficio SP4110N Printer Series  
 \*RICOHSP9100DN Ricoh Aficio SP9100DN Printer Series  
 \*RICOHSPC811DN Ricoh Aficio SPC811DN Color Printer Series  
 \*WORKIO\_BL Panasonic WORKiO DP-23xx Series Printer  
 Panasonic WORKiO DP-30xx Series Printer  
 \*WORKIO\_BM Panasonic WORKiO DP-35xx Series Printer  
 \*WORKIO\_CR Panasonic WORKiO DP-Cxxx Series Color Printer  
 \*XRX4215MRP Xerox 4215/MRP (HP Mode)  
 \*XRX4219MRP Xerox 4219/MRP (HP Mode)  
 \*XRX4220MRP Xerox 4220/MRP (HP Mode)  
 \*XRX4230MRP Xerox 4230/MRP (HP Mode)  
 \*XRX4235 Xerox 4235 LaserPrinting (HP Mode)  
 \*XRX4700II Xerox 4700 II Color Document Printer (HP Mode)  
 \*WSCSTA3 Printer not listed (A3-sized paper)  
 \*WSCSTA4 Printer not listed (A4-sized paper)  
 \*WSCSTA5 Printer not listed (A5-sized paper)  
 \*WSCSTB4 Printer not listed (B4-sized paper)

\*WSCSTB5 Printer not listed (B5-sized paper)  
\*WSCSTCONT80 Printer not listed (8 inch continuous forms)  
\*WSCSTCONT132 Printer not listed (13.2 inch continuous forms)  
\*WSCSTEXECUTIVE Printer not listed (executive-sized paper)  
\*WSCSTLEDGER Printer not listed (ledger-sized paper)  
\*WSCSTLEGAL Printer not listed (legal-sized paper)  
\*WSCSTLETTER Printer not listed (letter-sized paper)  
\*WSCSTNONE Printer not listed (paper size not specified)  
\*WSCST Printer not listed

Top

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## Paper source 1 (PPRSRC1)

Specifies the type of paper used in paper source one.

### \*MFRTPMDL

The system uses the suggested setting for this printer.

#### \*LETTER

The paper for this source is letter-sized (8.5 x 11 inches).

#### \*LEGAL

The paper for this source is legal-sized (8.5 x 14 inches).

#### \*LEDGER

The paper for this source is ledger-sized (11 x 17 inches).

#### \*EXECUTIVE

The paper for this source is executive-sized (7.25 x 10.5 inches).

#### \*A3

The paper for this source is A3-sized (297mm x 420mm).

#### \*A4

The paper for this source is A4-sized (210mm x 297mm).

#### \*A5

The paper for this source is A5-sized (148 x 210mm).

**\*B4**

The paper for this source is B4-sized (257mm x 364mm).

**\*B5**

The paper for this source is B5-sized (182 x 257mm).

**\*CONT80**

The paper for this source is continuous form (8.0 inches).

**\*CONT132**

The paper for this source is continuous form (13.2 inches).

**\*NONE**

No paper source number one is specified.

Top

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## **Paper source 2 (PPRSRC2)**

Specifies the type of paper used in paper source two.

**\*MFRTYPMDL**

The system uses the suggested setting for this printer.

**\*LETTER**

The paper for this source is letter-sized (8.5 x 11 inches).

**\*LEGAL**

The paper for this source is legal-sized (8.5 x 14 inches).

**\*LEDGER**

The paper for this source is ledger-sized (11 x 17 inches).

**\*EXECUTIVE**

The paper for this source is executive-sized (7.25 x 10.5 inches).

**\*A3**

The paper for this source is A3-sized (297mm x 420mm).

**\*A4**

The paper for this source is A4-sized (210mm x 297mm).

**\*A5**

The paper for this source is A5-sized (148 x 210mm).

**\*B4**

The paper for this source is B4-sized (257mm x 364mm).

**\*B5**

The paper for this source is B5-sized (182 x 257mm).

**\*NONE**

No paper source number one is specified.

Top

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## **Envelope source (ENVELOPE)**

Specifies the type of envelopes used in the third paper source.

**\*MFRTYPMDL**

The system uses the suggested setting for this printer.

**\*MONARCH**

The envelopes for this source are monarch-sized (3.875 x 7.5 inches).

**\*NUMBER9**

The envelopes for this source are number 9-sized (3.875 x 8.875 inches).

**\*NUMBER10**

The envelopes for this source are number 10-sized (4.125 x 9.5 inches).

**\*B5**

The envelopes for this source are B5-sized (176mm x 250mm).

**\*C5**

The envelopes for this source are C5-sized (162mm x 229mm).

**\*DL**

The envelopes for this source are DL-sized (110mm x 220mm).

**\*NONE**

No envelope source is specified.

Top

## ASCII code page 899 support (ASCII899)

Specifies whether the printer has ASCII code page 899 installed.

**\*NO**

The printer does not have ASCII code page 899 installed.

**\*YES**

The printer has ASCII code page 899 installed.

Top

## Image configuration (IMGCFG)

Specifies the image configuration for this printer. An image configuration object provides transform services for a variety of image and print datastream formats.

**\*NONE**

No image configuration specified.

*image-configuration*

Specify image configuration for a printer.

The following lists include the image configuration objects provided and suggested image configuration objects for many popular printers.

### Image Configuration Object Table

----- HP PCL Datastream -----	
*IMGA01	PCL 300-dpi printer
*IMGA02	PCL 600-dpi printer
*IMGA03	PCL 1200-dpi printer
*IMGA04	PCL 300-dpi color printer
*IMGA05	PCL 600-dpi color printer
*IMGA06	PCL 1200-dpi color printer
*IMGA07	PCL 75-dpi printer (No compression)
*IMGA08	PCL 600-dpi color printer with larger no-print border
*IMGA09	PCL 300-dpi printer (No compression)
----- Postscript Datastream -----	

```

*IMGB01    Postscript 300-dpi printer
*IMGB02    Postscript 600-dpi printer
*IMGB03    Postscript 1200-dpi printer
*IMGB04    Postscript 300-dpi color printer
*IMGB05    Postscript 600-dpi color printer
*IMGB06    Postscript 1200-dpi color printer
*IMGB07    Postscript 600x300-dpi color printer
*IMGB08    Postscript 1200x300-dpi color printer
*IMGB09    Postscript 360-dpi color printer
*IMGB10    Postscript 720-dpi color printer
*IMGB11    Postscript 1440x720-dpi color printer
*IMGB12    Postscript 400-dpi printer
*IMGB13    Postscript 800-dpi color printer
*IMGB14    Postscript 600-dpi color printer
           with larger no-print border
*IMGB15    Postscript 300-dpi color printer
           with larger no-print border
----- IPDS Datastream -----
*IMGC01    IPDS 240-dpi printer
*IMGC02    IPDS 300-dpi printer
*IMGC03    IPDS 600-dpi printer
*IMGC04    IPDS 1200-dpi printer
*IMGC05    IPDS 240-dpi printer with no-print border
*IMGC06    IPDS 300-dpi printer with no-print border
*IMGC07    IPDS 600-dpi printer with no-print border
*IMGC08    IPDS 1200-dpi printer with no-print border
*IMGC09    IPDS 240-dpi printer (IM/1 image only)
*IMGC10    IPDS 240-dpi printer with no-print border
           (IM/1 image only)
*IMGC11    IPDS 240-dpi printer (CCITT G4 compression)
----- PCL and Postscript Datastreams -----
*IMGD01    PCL/Postscript 300-dpi printer
*IMGD02    PCL/Postscript 600-dpi printer
*IMGD03    PCL/Postscript 1200-dpi printer
*IMGD04    PCL/Postscript 300-dpi color printer
*IMGD05    PCL/Postscript 600-dpi color printer
*IMGD06    PCL/Postscript 1200-dpi color printer
*IMGD07    PCL 300-dpi/Postscript 600-dpi printer
*IMGD08    PCL 300-dpi/Postscript 1200-dpi printer
*IMGD09    PCL 600-dpi/Postscript 300-dpi printer
*IMGD10    PCL 600-dpi/Postscript 1200-dpi printer
*IMGD11    PCL/Postscript 600-dpi color printer
           with larger no-print border

```

### Recommended Image Configuration Objects by Printer Table

Compaq Pagemarc 20	*IMGD01
Epson EPCL-4 Printer	*IMGA01
Epson EPCL-5 Printer	*IMGA02
Epson Stylus Photo with Postscript	*IMGB10
Epson Stylus Color 600, 800 with Postscript	*IMGB11
HP Color Laserjet 5	*IMGA04
HP Color Laserjet 5M	*IMGD04
HP Deskjet 560C, 820C, 1200C	*IMGA04
HP Deskjet 500, 600, 1200	*IMGA01
HP Deskjet 1600C, 1600CN	*IMGA04
HP Deskjet 1600CM	*IMGD04
HP Laserjet II, IID, IIP	*IMGA09
HP Laserjet II, IID, IIP with Postscript	*IMGB01
HP Laserjet III, IIID, IIISi, 4L	*IMGA01
HP Laserjet III, IIID, IIISi, 4L with Postscript	*IMGD01
HP Laserjet 4, 4P, 4V, 4Si, 4 Plus	*IMGA02
HP Laserjet 4M, 4MP, 4MV, 4Si MX, 4M Plus	*IMGD02
HP Laserjet 5, 5P, 5Si	*IMGA02
HP Laserjet 5M, 5MP, 5Si MX	*IMGD02



HP Laserjet 6, 6P, 6L	*IMGA02
HP Laserjet 6M, 6MP	*IMGD02
IBM 3112, 3116 Page Printer with IPDS feature	*IMGD02
IBM 3112, 3116 Page Printer (ASCII/LAN)	*IMGA02
IBM 3112, 3116 Page Printer with Postscript	*IMGD02
IBM 3130, 3160-1 AF Printer (240-pe1 mode)	*IMGC01
IBM 3130 AF Printer (300-pe1 mode)	*IMGC02
IBM Infoprint 20 with IPDS feature	*IMGC02
IBM Infoprint 20 (ASCII)	*IMGA02
IBM Infoprint 32 with IPDS feature	*IMGC02
IBM Infoprint 32 (ASCII)	*IMGA02
IBM Infoprint 60	*IMGC03
IBM Infoprint 62 Model 2	*IMGC05
IBM Infoprint 62 Model 3	*IMGC06
IBM InfoColor 70	*IMGB05
IBM Infoprint 4000	*IMGC05
IBM Infoprint 4000 High Resolution	*IMGC06
IBM 3825, 3827, 3828 AF Printer	*IMGC09
IBM 3825, 3827, 3828 AF Printer (with AFIG)	*IMGC01
IBM 3829 AF Printer	*IMGC01
IBM 3835-001 AF Printer	*IMGC10
IBM 3835-001 AF Printer (with AFIG)	*IMGC05
IBM 3835-002, 3900 AF Printer	*IMGC05
IBM 3912, 3916 Page Printer (ASCII/LAN)	*IMGA01
IBM 3912, 3916 Page Printer with IPDS feature (twinax)	*IMGC06
IBM 3930-02 Page Printer (IPDS diskette)	*IMGC01
IBM 3930-03 Page Printer	*IMGA01
IBM 3930-03 Page Printer with Postscript	*IMGD01
IBM 3935 AF Printer	*IMGC02
IBM 4019 LaserPrinters (HP mode)	*IMGA09
IBM 4019 LaserPrinters with Postscript	*IMGB01
IBM 4028 LaserPrinters	*IMGC06
IBM 4029 LaserPrinters	*IMGA01
IBM 4029 LaserPrinters with Postscript	*IMGB02
IBM 4039 LaserPrinters	*IMGA01
IBM 4039 LaserPrinters with Postscript	*IMGD07
IBM 4049 LaserPrinters	*IMGA02
IBM 4049 LaserPrinters with Postscript	*IMGD02
IBM 4079 Color Jetprinter PS	*IMGB09
IBM 4303 Network Color Printer	*IMGB05
IBM 4312, 4317, 4324 NP with IPDS feature (twinax)	*IMGC06
IBM 4312, 4317, 4324 NP with IPDS feature (LAN)	*IMGC06
IBM 4312, 4317, 4324 NP (ASCII/LAN)	*IMGA02
IBM 4312, 4317, 4324 NP with Postscript (ASCII/LAN)	*IMGD02
Lexmark 4039Plus	*IMGB02
Lexmark Optra C Color Printer	*IMGD11
Lexmark Optra E, E+	*IMGA02
Lexmark Optra N	*IMGD02
Lexmark Optra R+, Rx+, Lx+, Lxn+	*IMGD02
Lexmark Optra S Printers	*IMGD02
Lexmark Optra SC Color Printer	*IMGD05
Okidata 0L400 LED Page Printer	*IMGA01
Okidata 0L800, 0L810 LED Page Printers	*IMGA02
QMS 2025, 3225	*IMGB12
QMS Magicolor CX	*IMGD04
Tektronix Phaser 140	*IMGB09
Tektronix Phaser 300	*IMGB04
Tektronix Phaser 400	*IMGB05
Tektronix Phaser 540, 550	*IMGB05
Tektronix Phaser 560	*IMGB06
Xerox 4219/MRP	*IMGA01
Xerox 4220/MRP	*IMGA02
Xerox 4230 DocuPrinter	*IMGA02
Xerox 4512, 4517 Network Printer	*IMGA02
Xerox 4520mp Printer	*IMGB13

Xerox 4700 II Color Document Printer  
Xerox 4915 Color Laser Printer  
Xerox 4920, 4925 Color Laser Printer

\*IMGD04  
\*IMGB08  
\*IMGB05

Top

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## Maximum pending requests (MAXPNDRQS)

Specifies the maximum number of print requests that may be queued for printers. This parameter is used only if \*YES is specified for the **Advanced function printing (AFP)** parameter.

6

Up to 6 print requests can be queued.

*maximum-print-requests*

Specify a number from 1 to 31, indicating the maximum number of print requests that can be queued.

Top

---

## Print while converting (PRTCVT)

Specifies whether a file using AFP must be completely converted to IPDS before printing can begin.

\*YES

Printing begins prior to complete IPDS conversion.

\*NO

Printing does not begin prior to complete IPDS conversion.

Top

---

## Print request timer (PRTRQSTMR)

Specifies the number of seconds to wait, after a print request has been sent to a printer using continuous forms, before the last pages of the output are forced out of the printer into the paper stacker. This parameter is used only if \*YES is specified for the **Advanced function printing (AFP)** parameter and \*CONT is specified for the **Form feed (FORMFEED)** parameter.

\*NOMAX

No timer is used.

*print-request-timer*

Specify the number of seconds, from 1 to 3600, to wait after a print request has been sent before forcing the last pages of the output out of the printer.

---

## Form definition (FORMDF)

Specifies the name of the form definition to be used in the absence of any other form definition specification for a print request. This parameter is used only if \*YES is specified for the **Advanced function printing (AFP)** parameter.

### F1C10110

Use form definition F1C10110.

#### *form-definition-name*

Specify the name of the form definition to be used.

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the job is used to locate the form definition. If no current library exists in the library list, QGPL is used.

#### *library-name*

Specify the library where the form definition is located.

---

## Character identifier (CHRID)

Specifies, for printers, the character identifier (graphic character set and code page) indicating which font is used to print the job and file separator pages when no separator page font is explicitly specified. This parameter is used only if \*YES is specified for the **Advanced function printing (AFP)** parameter and \*APPC is specified for the **AFP attachment (AFPATTACH)** parameter, or if \*YES is specified for the **Host print transform (TRANSFORM)** parameter.

### \*SYSVAL

The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

#### **Element 1: Character Set**

##### *graphic-character-set*

Specify the graphic character set values that match the attributes of this printer. Valid values range from 1 through 32767.

#### **Element 2: Code Page**

##### *code-page*

Specify the code page set values that match the attributes of the printer. Valid values range from 1 through 32767.

---

## Remote location (RMTLOCNAME)

Specifies the remote location name of the printer device. This value may be an SNA network ID and control point name, an internet protocol (IP) host name, or an internet address.

An SNA remote location name is specified using the format nnnnnnnn.ccccccc, where nnnnnnnn is the network ID and ccccccc is the control point name. If only the control point name is specified, the RMTNETID parameter value is used as the value of the network ID.

An IP remote location name must be from 1 to 255 characters in length.

**Note:** This parameter is valid if AFP(\*YES) and AFPATTACH(\*APPC) both are specified, or when LANATTACH(\*IP) or LANATTACH(\*USRDFN) is specified. This parameter is required when APPTYPE(\*APPINIT) is specified. The remote location name for an APPTYPE(\*APPINIT) device is the Virtual Telecommunications Access Method/IBM Network Control Program (VTAM/NCP) name of the physical device.

*remote-location-name*

Specify the remote location name, remote system name, or internet address.

Top

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## Local location (LCLLOCNAME)

Specifies the local location name. This parameter is valid only when AFP(\*YES) and AFPATTACH(\*APPC) are specified, or when APPTYPE(\*APPINIT) is specified. The local location name for an APPTYPE(\*APPINIT) device is the name of the independent logical unit (LU) in the IBM Network Control Program (NCP).

### \*NETATR

The LCLLOCNAME value specified in the system network attributes is used.

*local-location-name*

Specify the local location name.

Top

---

## Mode (MODE)

Specifies the name of the mode used to define the session limits and session characteristics for this device.

### QSPWTR

The mode which exists specifically for use with printers.

### \*NETATR

The mode in the network attributes is used.

*mode-name*

Specify the name of the mode description to be used by this device.

---

## DBCS feature (IGCFEAT)

Specifies which double-byte character set (DBCS) table is used in DBCS feature code format expressing device features and the last code point value. The table at the end of this parameter description shows valid device features and last code point values for DBCS-capable devices.

**Note:** This parameter is valid for DBCS-capable devices only.

### Element 1: Features of the DBCS-Capable Devices

#### *device-features*

Specify the device character resolution, language, and relative buffer size device features using the format SSSSLR, where:

**SSSS =**

The resolution (number of matrix points used to create) of the character. For example, 2424 would be 24 matrix points of height and 24 matrix points of width available to formulate the character.

**L =** The language code. The 4 language codes currently supported are:

- J = Japanese
- K = Korean
- C = Traditional Chinese
- S = Simplified Chinese

**R =** The relative buffer size. The valid values are: 0, 1, 2, and 4.

### Element 2: Last Code Point

#### *last-code-point*

Specify the 4-digit code point of the last double-byte character. This value can be blank.

---

## User-defined options (USRDFNOPT)

Specifies, for spooled output only, one or more user-defined options to be used by user applications or user-specified programs that process spooled files. A maximum of four user-defined options can be specified.

**\*NONE**

No user-defined option is specified.

#### *user-defined-option*

Specify the user-defined option to be used by user applications that process spooled files. All characters are acceptable.

Top

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## User-defined object (USRDFNOBJ)

Specifies, for spooled output only, the user-defined object to be used by user applications or user-specified programs that process spooled files.

The possible Name of User-Defined Object values are:

\*NONE

No user-defined object name is specified.

*user-defined-object-name*

Specify the name of the user-defined object to be used by user applications or user-specified programs that process spooled files.

### Element 1: Object

#### Qualifier 1: Object

*name* Specify the name of the user-defined object.

#### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

### Element 2: Object type

#### *object-type*

The user object type can be one of the following:

- \*DTAARA (Data Area)
- \*DTAQ (Data Queue)
- \*FILE (File)
- \*PSFCFG (PSF Configuration)
- \*USRIDX (User Index)
- \*USRQ (User Queue)
- \*USRSPC (User Space)

Top

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## Data transform program (USRDTATFM)

Specifies the user-defined data program that is used to transform the spooled file data.

### Notes:

1. This parameter must be \*NONE when AFP(\*YES) is specified.
2. This parameter must be \*NONE when TRANSFORM(\*YES) is specified.

### \*NONE

No user-defined data transform program name is specified.

*user-defined-data-transform-program-name*

Specify the name of a user-defined data transform program.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

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## User-defined driver program (USRDRVPGM)

Specifies the qualified name of a user-defined driver program.

**Note:** This parameter is not valid when AFP(\*YES) is specified, or when DEVCLS(\*LAN), TYPE(3812) and LANATTACH(\*IP) are specified.

### \*NONE

No user-defined driver program is specified.

*user-defined-driver-program-name*

Specify the name of a user-defined driver program.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

---

## System driver program (SYSDRVPGM)

Specifies the name of a system-defined driver program, which provides the capability for sending IBM System i5 printer output to a printer attached over a TCP/IP network.

**Note:** This parameter is only valid when DEVCLS(\*LAN), TYPE(3812) and LANATTACH(\*IP) are specified.

### \*HPPJLDRV

An HP-compatible printer driver program is used.

### \*IBMPJLDRV

An IBM network printer driver program is used.

### \*NETSTNDRV

A network station driver program is used.

### \*IBMSNMPDRV

An IBM SNMP printer driver program is used.

### \*IBMIPDRV

An IBM IPP printer driver program is used.

Top

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## Secure connection(SECURECNN)

Specifies whether a secure connection is established with the printer. A secure connection provides an encrypted communications session to ensure print data that passes over the connection remains private.

**Note:** This parameter is only valid when SYSDRVPGM(\*IBMIPDRV) is specified.

### \*NO

The connection with the printer is not secure.

### \*YES

The connection with the printer is secure. The printer must support SSL(Secure Sockets Layer) or TLS(Transport Layer Security) and must have a system digital certificate. More information about the secure connections can be found in the Printer Device Programming book.

Top



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## Validation list (VLDL)

Specifies a validation list that is used is the printer requests authentication. The validation list is checked for the name of the user who created the spooled file, the name of the printer device, or the name of the system. Authentication information associated with the name is returned to the printer. More information about building a validation list can be found in the Printer Device Programming book.

**Note:** This parameter is only valid when SYSDRVPGM(\*IBMIPPDRV) is specified.

### \*NONE

No validation list is specified.

### *validation-list-object*

Specify the name of the validation list which contains authentication information.

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

Top

Specifies information about the printer device that could be **published** to a Lightweight Directory Access Protocol (LDAP) directory.

### Element 1: Support Duplex

Specifies whether the printer supports printing on both sides of a sheet of paper.

#### **\*UNKNOWN**

The value for this field is unknown.

#### **\*SIMPLEX**

The printer device only supports printing on one side of a sheet of paper.

#### **\*DUPLEX**

The printer device supports printing on both sides of a sheet of paper.

### Element 2: Support Color

Specifies whether the printer device supports color ink printing.

#### **\*UNKNOWN**

The value for this field is unknown.

#### **\*COLOR**

The printer device does support color ink printing.

#### **\*NOCOLOR**

The printer device does not support color ink printing.

### Element 3: Pages per minute black

The number of pages per minute in black ink that the printer device can produce.

**\*UNKNOWN**

The value for this field is unknown.

***pages-count-black***

The number of pages per minute in black ink that the printer device can produce. This field is an integer value ranging from 1 to 32767.

**Element 4: Pages Per Minute Color**

The number of pages per minute in color ink that the printer device can produce.

**Note:** The number of pages per minute in color ink is valid only when \*COLOR is specified for element 2.

**\*UNKNOWN**

The value for this field is unknown.

***page-count-color***

The number of pages per minute in color ink that the printer device can produce. This field is an integer value ranging from 1 to 32767.

**Element 5: Location**

Briefly describes the location of the printer device.

**\*BLANK**

The location of the printer device is not specified.

***location***

Specify no more than 30 characters of text, enclosed in apostrophes, to describe where the printer is located.

**Element 6: Data Streams Supported**

Specifies the data stream formats supported by the printer device.

**\*UNKNOWN**

The value for this field is unknown.

**\*PCL** The printer device supports PCL (Printer Command Language).

**\*PS** The printer device supports PostScript.

**\*PDF** The printer device supports PDF (Portable Document Format).

**\*IPDS** The printer device supports IPDS (Intelligent Printer Data Stream).

**\*SCS** The printer device supports SCS (SNA Character String).

Top

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**Text 'description' (TEXT)**

Specifies the text that briefly describes the object.

**\*BLANK**

No text is specified.

***character-value***

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Dependent location name (DEPLOCNAME)

Specifies the dependent local location name used for Dependent LU Requester (DLUR), providing additional security for the connection. If this name is filled in, an activation request (SNA ACTLU) from a Dependent LU Server (DLUS) node must reference this name or it is rejected.

Remote DLUS nodes may optionally accept unsolicited reply PSIDs (Product Set IDs) from the IBM System i5 for auto-definition of LUs at the DLUS node. If so, then this name will be sent to the DLUS node in the reply PSID and it will be returned on the ACTLU request.

If unsolicited reply PSIDs are not supported by the DLUS node, then there will have to be close coordination of the PU name definitions on both systems.

### \*NONE

No location name is defined.

### *dependent-location-name*

Specify the dependent location name used for DLUR applications.

Top

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## Remote network identifier (RMTNETID)

Specifies the identifier (ID) of the remote network. This parameter is required when AFP(\*YES) and AFPATTACH(\*APPC) are specified, or when APPTYPE(\*APPINIT) is specified.

### \*NETATR

The remote network identifier specified in the network attributes is used.

### \*NONE

No remote network identifier (ID) is used.

### *remote-network-ID*

Specify the ID of the remote network.

Top

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## Workstation customizing object (WSCST)

Specifies the qualified name of a work station customizing object.

### \*NONE

No work station customizing object is specified.

### *work-station-customizing-object*

Specify the work station customizing object.

**Note:** If a work station customizing object is specified for the WSCST parameter, all country keyboard identifiers are valid for ASCII devices except for the following: FQB, FQL, INB, INI, JEB, JEL, JKB, JUB, KAB, KOB, RCB, and TAB.

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*library-name*

Specify the library where the object is located.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Creating a Local Printer Device Description

```
CRTDEVPRT  DEVD(PRT1)  TYPE(5219)  DEVCLS(*LCL)
            MODEL(D1)   PORT(0)
            SWTSET(1)   CTL(CTL01)  FONT(011)
```

This command creates a device description for a local printer named PRT1. It is a 5219 Model D1 Printer attached to Port 0 of CTL01. It has an address of 1 and uses the Courier font.

### Example 2: Creating a LAN Printer Device Description

```
CRTDEVPRT  DEVD(PRT2)  DEVCLS(*LAN)  TYPE(3812)  MODEL(1)
            ADPTADR(999999999999)  FONT(011)
            MFRTYPMDL(*IBM3812)
```

This command creates a device description for a LAN printer named PRT2. It is a 3812 Model 1 Printer attached to IBM 3812 Pageprinter. It has an adapter address of 999999999999 and uses the Courier font.

Top

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## Error messages

### \*ESCAPE Messages

#### CPDB12C

Remote location name &2 not in correct format.

#### CPF261A

Device description &1 not created due to errors.

#### CPF2631

Device type &2 not valid.

#### CPDB1B8

Combination of parameters not valid. Reason code is &2.

Top



---

## Create Device Desc (Retail) (CRTDEVRTL)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (Retail) (CRTDEVRTL) command creates a device description for a retail device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Positional 1
LOCADR	Local location address	01-FE	Required, Positional 2
RMTLOCNAME	Remote location	<i>Communications name</i>	Required, Positional 3
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
PACING	Pacing value	0-7, <u>7</u>	Optional
MAXLENRU	Maximum length of request unit	*CALC, 247, 256, 503, 512, 1015, 1024	Optional
APPTYPE	Application type	*OTHER, *RCMS, *SBMRTLPGM	Optional
DEVCLS	Device class	*NONE, *SNPT	Optional
ACTTMR	Activation timer	1-2550, <u>170</u>	Optional
INACTTMR	Inactivity timer	1-30, *NOMAX, *SEC15, *SEC30	Optional
SNPTDEV	SNA pass-through device desc	<i>Name</i> , *NONE	Optional
SNPTGRP	SNA pass-through group name	<i>Name</i> , *NONE	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Local location address (LOCADR)

Specifies the local location address for this device.

Valid values range from 01 to FF.

Top

---

## Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

Top

---

## Pacing value (PACING)

Specifies the SNA pacing value used for request/response units (RUs).

7

Specifies 7-bit word lengths.

*pacing-value*

Specify a value, ranging from 1 through 7.

Top



---

## Maximum length of request unit (MAXLENRU)

Specifies the maximum request unit (RU) length allowed.

### **\*CALC**

The system calculates the value to use.

*maximum-length-request-unit*

Specify 247, 256, 503, 512, 1015, or 1024 bytes as the maximum length for incoming request units.

Top

---

## Application type (APPTYPE)

Specifies the application type used by this device.

### **\*OTHER**

This device communicates with either HCP, if 01 is specified for the **Local location address (LOCADR)** parameter, or an application on the controller. \*OTHER should always be specified when 01 is specified for the LOCADR parameter. For a 4684 controller, this parameter should not be specified if the LOCADR parameter is any value other than 01.

### **\*RCMS**

This device communicates with the remote change management server (RCMS). \*RCMS should only be specified for a 4680 or a 4684 controller. For a 4684 controller, \*RCMS should be specified if the LOCADR parameter is any value other than 01.

### **\*SBMRTLPGM**

This device is used with the Submit Retail Program (SBMRTLPGM) command to start a program on the retail controller using the ADCS SUP (Start User Program) support. This value is valid only when the Retail Point-of-Sale Communications Facility Licensed Program is being used on the controller. \*SBMRTLPGM should not be specified for a 4684 controller.

Top

---

## Device class (DEVCLS)

Specifies the device class for this device.

### **\*NONE**

This device description does not use SNA pass-through support.

### **\*SNPT**

This device description is for a device station connected to an SNA pass-through advanced program-to-program communications (APPC) controller. SNA pass-through support allows the user to connect this device station with host logical unit (LU) types 0 through 3 applications.

---

## Activation timer (ACTTMR)

Specifies the amount of time (in seconds) to wait for the device to respond to the activation request from the host IBM System i5. If the device does not respond within this time, it is considered not available.

**Note:** This parameter is valid only on switched lines and when \*SNPT is specified for the DEVCLS parameter.

This parameter is valid only when \*SNPT is specified for the DEVCLS parameter.

### 170

Specifies the activate time of 170 seconds.

#### *activate-time*

Specify a number ranging from 1 through 2550 indicating the number of seconds before the device is considered not available.

---

## Inactivity timer (INACTTMR)

Specifies, for devices connected using SNA pass-through support, a timeout value that measures the amount of time that the device is not bound to a host application. When the timeout value is exceeded, the session is ended.

valid values range from 1 through 30 minutes.

### \*NOMAX

No maximum inactivity time is tracked (no inactivity timer is to be enforced).

### \*SEC15

A 15-second time-out period is used.

### \*SEC30

A 30-second time-out period is used.

#### *inactivity-timer*

Specifies a time-out value in minutes.

---

## SNA pass-through device desc (SNPTDEV)

Specifies the name of the associated SNA pass-through device that is attached to a host or advanced program-to-program communications (APPC) controller.

### \*NONE

No name is specified.

*associated-device-name*

Specify the name of a device that is attached to a host or an APPC controller that is associated with this device.

Top

---

## SNA pass-through group name (SNPTGRP)

Specifies the name configured for a group of host devices in a configuration list (see CRTCFGL command). This indicates that this device is associated with any one of the devices in that group which is available.

### \*NONE

No name is specified.

*group-name*

Specify the name configured for a group of host devices that must be associated with this device.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can

change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**  
The user cannot access the object.

**\*LIBCRTAUT**  
The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTDEVRTL  DEVD(RTL1)  LOCADR(05)
           RMTLOCNAME(DETROIT) CTL(CTL4)
```

This command creates a retail device description named RTL1. The location address of the retail device is X'05'. The remote-location name is Detroit, and the device is attached to the retail controller CTL4.

Top

---

## Error messages

### \*ESCAPE Messages

**CPF261A**  
Device description &1 not created due to errors.

Top

---

## Create Device Desc (SNPT) (CRTDEVSNPT)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (SNA Pass-Through) (CRTDEVSNPT) command creates a device description for an SNA pass-through (SNPT) device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
DEVDD	Device description	<i>Name</i>	Required, Positional 1
LOCADR	Local location address	00-FE	Required, Positional 2
SNPTCLS	SNA pass-through class	*UP, *DOWN	Required, Positional 3
ONLINE	Online at IPL	*YES, *NO	Optional, Positional 4
CTL	Attached controller	<i>Name</i>	Optional
ACTTMR	Activation timer	1-2550, <u>170</u>	Optional
SNPTDEV	SNA pass-through device desc	<i>Name</i> , *NONE	Optional
SNPTGRP	SNA pass-through group name	<i>Name</i> , *NONE	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEPLOCNAME	Dependent location name	<i>Communications name</i> , *NONE	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEVDD)

Specifies the name of the device description.

Top

---

### Local location address (LOCADR)

Specifies the local location address for this device.

Valid values range from 01 to FF.

---

## SNA pass-through class (SNPTCLS)

Specifies whether this device is attached to a SNA pass-through host controller or to a SNA pass-through downstream (APPC) controller.

### \*UP

Specifies device to be attached to a SNA pass-through host controller.

### \*DOWN

Specifies device to be attached to a SNA pass-through downstream (APPC) controller.

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

---

## Attached controller (CTL)

Specifies the name of the controller description to which this object is attached.

---

## Activation timer (ACTTMR)

Specifies the amount of time (in seconds) to wait for the device to respond to the activation request from the host IBM System i5. If the device does not respond within this time, it is considered not available.

**Note:** This parameter is valid only on switched lines and when \*SNPT is specified for the DEVCLS parameter.

### 170

Specifies the activate time of 170 seconds.

*activation-timer*

Specify a number ranging from 1 through 2550 indicating the number of seconds before the device is considered not available.

Top

---

## SNA pass-through device desc (SNPTDEV)

Specifies the name of the associated SNA pass-through device that is attached to a host or advanced program-to-program communications (APPC) controller.

### \*NONE

No name is specified.

*associated-device-name*

Specify the name of a device that is attached to a host or an APPC controller that is associated with this device.

Top

---

## SNA pass-through group name (SNPTGRP)

Specifies the name configured for a group of host devices in a configuration list (see CRTCFGL command). This indicates that this device is associated with any one of the devices in that group which is available.

### \*NONE

No name is specified.

*group-name*

Specify the name configured for a group of host devices that must be associated with this device.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Dependent location name (DEPLOCNAME)

Specifies the dependent local location name used for Dependent LU Requester (DLUR), providing additional security for the connection. If this name is filled in, an activation request (SNA ACTLU) from a Dependent LU Server (DLUS) node must reference this name or it is rejected.

Remote DLUS nodes may optionally accept unsolicited reply PSIDs (Product Set IDs) from the IBM System i5 for auto-definition of LUs at the DLUS node. If so, then this name will be sent to the DLUS node in the reply PSID and it will be returned on the ACTLU request.

If unsolicited reply PSIDs are not supported by the DLUS node, then there will have to be close coordination of the PU name definitions on both systems.

### \*NONE

No location name is defined.

### *dependent-location-name*

Specify the dependent location name used for DLUR applications.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.



---

## Examples

```
CRTDEVSNPT  DEVD(SNPTDEV1)  LOCADR(05) SNPTCLS(*UP)
             CTL(MYCTL)     SNPTDEV(DOWNDEV1)
```

This command creates a SNA pass-through device description named SNPTDEV1. The location address of the device is X'05'. The device is attached to controller MYCTL. The SNA pass-through class is \*UP and the device name associated with this device is DOWNDEV1.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

#### CPF2654

Device description &1 created but possibly not usable.

Top



## Create Device Desc (SNUF) (CRTDEVSNUF)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Device Description (SNUF) (CRTDEVSNUF) command creates a device description for a Systems Network Architecture Upline Facility (SNUF) device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Positional 1
LOCADR	Local location address	01-FF	Required, Positional 2
RMTLOCNAME	Remote location	<i>Communications name</i>	Required, Positional 3
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
PGMSTRRQS	Program start request capable	*NO, *YES	Optional
SPCHOSTAPP	Special host application	*NONE, *FLASH	Optional
APPID	Application identifier	<i>Name</i>	Optional
HOST	Host type	*CICS, *IMS, *IMSRTR, *ADCS	Optional
RCDLEN	Record length	1-32767, <b>512</b>	Optional
BLKLEN	Block length	1-32767, <b>512</b>	Optional
DFTPGM	Default program	<i>Qualified object name</i>	Optional
	Qualifier 1: Default program	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
HCPPEML	HCP emulation	<i>Character value</i> , *STRUSRPGM, 3651, 3684, <b>4680</b> , 4684	Optional
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
DEPLOCNAME	Dependent location name	<i>Communications name</i> , *NONE	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

### Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

---

## Local location address (LOCADR)

Specifies the local location address for this device.

Valid values range from 01 to FF.

---

## Remote location (RMTLOCNAME)

Specifies the remote location name of the system with which this object communicates.

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

---

## Program start request capable (PGMSTRRQS)

Specifies whether this device is reserved for host system call through a Program Start Request (PSR).

### \*NO

This device is not reserved for a PSR request.

### \*YES

This device is reserved for a PSR request.

---

## Special host application (SPCHOSTAPP)

Specifies whether SNUF customizes support for special host applications outside the Customer Information Control System for Virtual Storage (CICS/VS) or Information Management System for Virtual Storage (IMS/VS) application layer.

### \*NONE

SNUF does not customize support for special host applications.

### \*FLASH

SNUF customizes support for the Federal Reserve Flash application.

Top

---

## Application identifier (APPID)

Specifies the VTAM Application Identifier sent with the log-on message.

Top

---

## Host type (HOST)

Specifies the type of host system with which the device will communicate.

Top

---

## Record length (RCDLEN)

Specifies the maximum record length allowed when communicating with this device.

Valid values range from 1 to 32767.

The value must be at least the size of the largest record to be sent, but must not exceed the buffer size specified on the line description (MAXBUFFER parameter) to which this device is attached.

Valid values range from 1 to 32767.

Top

---

## Block length (BLKLEN)

Specifies the maximum block length allowed when communicating with this device.

The possible values are from 1 to 32767.

The value must be at least the size of the largest record to be sent, but must not exceed the buffer size specified on the line description (MAXBUFFER parameter) to which this device is attached.

---

## Default program (DFTPGM)

Specifies the name of the program called if a program start request is received and no program is specified.

The program is specified by its qualified name (library-name/program-name).

The possible library values are:

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*library-name*

Specify the library where the object is located.

---

## HCP emulation (HCPEML)

Specifies the Host Command Processor (HCP) emulation to be performed.

**3651**

The host is running ADCS and will use this device description for a 3651 HCP emulated session.

**3684**

The host is running ADCS and will use this device description for a 3684 HCP emulated session.

**4680**

The host is running ADCS and will use this device description for a 4680 HCP emulated session.

**4684**

The host is running ADCS and will use this device description for a 4684 HCP emulated session.

**\*STRUSRPGM**

The host is running ADCS and will use this device description for the Start User Program (SUP) emulated session.

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### **\*BLANK**

No text is specified.

### ***character-value***

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## **Dependent location name (DEPLOCNAME)**

Specifies the dependent local location name used for Dependent LU Requester (DLUR), providing additional security for the connection. If this name is filled in, an activation request (SNA ACTLU) from a Dependent LU Server (DLUS) node must reference this name or it is rejected.

Remote DLUS nodes may optionally accept unsolicited reply PSIDs (Product Set IDs) from the IBM System i5 for auto-definition of LUs at the DLUS node. If so, then this name will be sent to the DLUS node in the reply PSID and it will be returned on the ACTLU request.

If unsolicited reply PSIDs are not supported by the DLUS node, then there will have to be close coordination of the PU name definitions on both systems.

### **\*NONE**

No location name is defined.

### ***dependent-location-name***

Specify the dependent location name used for DLUR applications.

Top

---

## **Authority (AUT)**

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTDEVSNUF  DEVD(SNUFDEV02)  LOCADR(FE)  RMTLOCNAME(DETOIT)
             CTL(SNUFCTL01)  PGMSTRRQS(*YES)  DFTPGM(PAYROLL)
```

This command creates a device description for a SNUF communications device named SNUFDEV02. The device is attached to the communications controller SNUFCTL01 in Detroit, and is at location address X'FE'. The device will be program start request-capable and the default program is PAYROLL.

Top

---

## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

Top



---

## Create Device Desc (Tape) (CRTDEVTAP)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Device Description (Tape) (CRTDEVTAP) command creates a device description for a tape device.

**Restriction:** You must have input/output system configuration (\*IOSYSCFG) special authority to use this command.

Top

---

### Parameters

Keyword	Description	Choices	Notes
DEVVD	Device description	<i>Name</i>	Required, Key, Positional 1
TYPE	Device type	<i>Character value</i> , *RSRCNAME	Optional, Key, Positional 2
MODEL	Device model	<i>Character value</i> , *RSRCNAME	Optional, Key, Positional 3
RSRCNAME	Resource name	<i>Name</i> , *NONE, *VRT	Optional, Key, Positional 4
SWTSET	Switch setting	<i>Character value</i>	Optional
ONLINE	Online at IPL	*YES, *NO	Optional
CTL	Attached controller	<i>Name</i>	Optional
ASSIGN	Assign device at vary on	*YES, *NO	Optional
UNLOAD	Unload device at vary off	*YES, *NO	Optional
MSGQ	Message queue	Single values: *SYSOPR Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Message queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *LIBL, *CURLIB	
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *CHANGE, *ALL, *USE, *EXCLUDE, *LIBCRTAUT	Optional

Top

---

### Device description (DEVVD)

Specifies the name of the device description.

This is a required parameter.

Top

---

## Device type (TYPE)

Specifies the type of device this description represents.

### \*RSRCNAME

The device type is determined from the resource name (RSRCNAME) parameter.

**Note:** When \*RSRCNAME is used, the resource name must be an existing tape resource.

For a list of the device types that are valid on this parameter, press F4 (Prompt) from the TYPE prompt.

Top

---

## Device model (MODEL)

Specifies the model number of the device for this description.

**Note:** This parameter is ignored, but can be specified for compatibility with earlier versions of this command.

### \*RSRCNAME

The device model is determined from the resource name parameter.

*device-model*

Specify a device model for this description.

Top

---

## Resource name (RSRCNAME)

Specifies the resource name that identifies the virtual or physical hardware this description represents. For a physical hardware resource use the WRKHDWRSC command to determine the resource name.

### \*NONE

No resource name is specified. A resource name must be provided before the device can be varied on.

### \*VRT

The resource name will be generated by the operating system at the time the device description is created. The resource name will represent virtual (not physical) hardware. Once the IBM System i5 has created the maximum number of virtual hardware resources, the last created resource will be used for the device description.

**Note:** The resource name will not be removed if a device description is deleted. You may create a new device description for existing resources by specifying the resource by name.

*resource-name*

Specify the name to identify the physical or virtual device on the system.

Top

---

## Switch setting (SWTSET)

**Note:** This parameter is no longer valid. Specify the RSRCTYPE parameter for all tape devices. The SWTSET parameter is provided for compatibility with earlier versions of this command. If specified, the SWTSET parameter is converted to a resource name by the system.

Specifies the switch setting for tape devices.

For 3422, 3480, and 3490 tape devices the possible values are 0 to F.

For 3430 tape devices the possible values are 0 to 3.

Top

---

## Online at IPL (ONLINE)

Specifies whether this object is automatically varied on at initial program load (IPL).

### \*YES

This device is varied on automatically at IPL.

### \*NO

This device is not varied on automatically at IPL.

Top

---

## Attached controller (CTL)

Specifies the name of the controller description to which this device is attached.

**Note:** To use this device for communicating with a remote location that resides on the same system as the local location, specify a controller description that was created with LINKTYPE (\*LOCAL) specified.

This parameter is not valid when RSRCTYPE(\*VRT) is specified.

Top

---

## Assign device at vary on (ASSIGN)

Specifies whether the tape drive is assigned to the system when it is varied on.

### \*YES

The tape drive is assigned when the device is varied on.

### \*NO

The tape drive is not assigned when the device is varied on.

Top

---

## Unload device at vary off (UNLOAD)

Specifies whether the tape drive is unloaded when the device is varied off.

### \*YES

The tape drive is unloaded when the device is varied off.

### \*NO

The tape drive is not unloaded when the device is varied off. The tape is rewound, but not past the beginning-of-tape marker.

Top

---

## Message queue (MSGQ)

Specifies the message queue to which operational messages for this device are sent.

The possible qualified names are:

### \*SYSOPR

Messages are sent to the QSYSOPR message queue in QSYS.

### *message-queue-name*

Specify the name of the message queue to which operational messages are sent.

\*LIBL All libraries in the job's library list are searched until the first match is found.

### \*CURLIB

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

### *library-name*

Specify the name of the library to be searched.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Create a Virtual Tape Device Description

```
CRTDEVTAP  DEVD(VIRTAP01) RSRNAME(*VRT)
```

This command creates a device description for a virtual tape device that is named VIRTAP01. The device type is determined from the resource name. All virtual tape devices will be assigned a **TYPE** value of 63B0 and **MODEL** value of 001.

### Example 2: Create a Tape Device Description with a Resource Name

```
CRTDEVTAP  DEVD(TAPDEV01) RSRNAME(TAPERSRC)
```

This command creates a device description for a tape device that is named TAPDEV01 with resource TAPERSRC.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF261A

Device description &1 not created due to errors.

[Top](#)

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# Create Directory (CRTDIR)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Create Directory (CRTDIR) command adds a new directory to the system.

A directory is an object that contains the names of other objects. Libraries and folders are types of directories. When a directory is created, a link is added to the directory prefix. The directory must have been created before any objects can be placed into it.

This command can also be issued using the following alternative command names:

- MD
- MKDIR

For more information about integrated file system commands, see the Integrated file system topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

## Restrictions:

- The following restriction applies when the directory to be created is a library in the QSYS.LIB or independent ASP QSYS.LIB file system, or a directory within the "root" (/), QOpenSys, or user-defined file systems:
  - The audit (\*AUDIT) special authority is required when specifying a value other than \*SYSVAL on the **Auditing value for objects (CRTOBJAUD)** parameter.
- The following restriction applies when the directory to be created is a folder in an existing folder in QDLS:
  - The change (\*CHANGE) authority is required for the existing folder.
- The user must have execute (\*X) authority to each directory in the path.
- When creating a directory in the "root" (/), QOpenSys or user\_defined file system, the user must have write and execute (\*WX) authority to the directory that contains the new directory.
- When creating a directory, the owner ID (UID) is the user creating the directory.

If the directory is to be created in the "root" (/), QOpenSys, and user-defined file systems, the following applies. If the S\_ISGID bit of the parent directory is off, the group ID (GID) is set to the effective GID of the thread creating the directory. If the S\_ISGID bit of the parent directory is on, the group ID (GID) of the new directory is set to the GID of the parent directory.

If the directory is to be created in the QSYS.LIB or independent ASP QSYS.LIB file system, the GID is obtained from the primary user profile. For all other file systems, the GID is obtained from the parent directory.

- The user must have all object (\*ALLOBJ) and security administrator (\*SECADM) special authorities to specify a value for the **Scanning option for objects (CRTOBJSCAN)** parameter other than \*PARENT.

Top

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## Parameters

Keyword	Description	Choices	Notes
DIR	Directory	<i>Path name</i>	Required, Positional 1

Keyword	Description	Choices	Notes
DTAAUT	Public authority for data	Name, *INDIR, *RWX, *RW, *RX, *WX, *R, *W, *X, *EXCLUDE, *NONE	Optional
OBJAUT	Public authority for object	Single values: *INDIR, *NONE, *ALL Other values (up to 4 repetitions): *OBJEXIST, *OBJMGT, *OBJALTER, *OBJREF	Optional
CRTOBJAUD	Auditing value for objects	*SYSVAL, *NONE, *USRPRF, *CHANGE, *ALL	Optional
CRTOBJSCAN	Scanning option for objects	*PARENT, *YES, *NO, *CHGONLY	Optional
RSTDRNMUNL	Restricted rename and unlink	*NO, *YES	Optional

Top

---

## Directory (DIR)

Specifies the path name of the directory to be created.

**Note:** Do not use a name that begins with the character Q. The system assumes that libraries or directories with those names are system libraries or directories.

For more information on specifying path names, refer to "Object naming rules" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**Note:** This parameter is Unicode-enabled. See "Unicode support in CL" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for additional information.

Top

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## Public authority for data (DTAAUT)

Specifies the public data authority given to the user for the directory, or specifies that all authorities are inherited from the directory it is to be created in.

### \*INDIR

The authority for the directory to be created is determined by the directory it is to be created in. The directory immediately preceding the new directory determines the authority. A directory created in the "root" (/), QOpenSys, or user-defined file system is assigned the same public, private and primary group authority, authorization list, and primary group as the directory it is to be created in. A directory created in QDLS for a folder defaults to \*EXCLUDE for a first level folder. If created in the second level or greater, the authority of the previous level is used. The QOpenSys and "root" (/) file systems use the parent directory's Data Authority value. If the value \*INDIR is specified for either the **Public authority for object (OBJAUT)** parameter or the DTAAUT parameter, then \*INDIR must be specified for both parameters.

**\*RWX** The user can change the object and perform basic functions on the object except those limited to the owner or controlled by object existence (\*OBJEXIST), object management (\*OBJMGT), object alter (\*OBJALTER) and object reference (\*OBJREF) authorities. Read, write, and execute (\*RWX) authority provides object operational (\*OBJOPR) and all data authorities.

**\*RW** The user can view and change the contents of an object. Read and write (\*RW) authority provides \*OBJOPR and data read (\*READ), add (\*ADD), update (\*UPD) and delete (\*DLT) authorities.

**\*RX** The user can perform basic operations on the object, such as run a program or display the



contents of a file. The user is prevented from changing the object. Read and execute (\*RX) authority provides \*OBJOPR and data \*READ and execute (\*EXECUTE) authorities.

**\*WX** The user can change the contents of an object and run a program or search a library or directory. Write and execute (\*WX) authority provides \*OBJOPR and data \*ADD, \*UPD, \*DLT, and \*EXECUTE authorities.

**\*R** The user can view the contents of an object. Read (\*R) authority provides \*OBJOPR and data \*READ authorities.

**\*W** The user can change the contents of an object. Write (\*W) authority provides \*OBJOPR and data \*ADD, \*UPD, and \*DLT authorities.

**\*X** The user can run a program or search a library or directory. Execute (\*X) authority provides \*OBJOPR and data \*EXECUTE authorities.

**\*EXCLUDE**

The user cannot access the object. The OBJAUT value must be \*NONE, if this special value is used.

**\*NONE**

The user is given no data authorities to the objects. This value cannot be used with the OBJAUT value of \*NONE.

*name* Specify the name of the authorization list used. The format of the authorization list name remains the current ten-character format. The OBJAUT value must be \*NONE, if this special value is used.

Top

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## Public authority for object (OBJAUT)

Specifies the public object authority given to users for the directory, or specifies that all authorities are inherited from the directory it is to be created in.

**\*INDIR**

The object authority is based on the authority for the directory where this directory is to be created. A directory created in the "root" (/), QOpenSys, or user-defined file system is assigned the same public, private and primary group authority, authorization list, and primary group as the directory it is to be created in. If the value \*INDIR is specified for either the OBJAUT parameter or the **Public authority for data (DTAAUT)** parameter, then \*INDIR must be specified for both parameters.

**\*NONE**

None of the other object authorities (\*OBJEXIST, \*OBJMGT, \*OBJALTER or \*OBJREF) are given to the users. If \*EXCLUDE or an authorization list is specified for the DTAAUT parameter, \*NONE must be specified. This value cannot be used with the DTAAUT value of \*NONE.

**\*ALL** All of the other object authorities (\*OBJEXIST, \*OBJMGT, \*OBJALTER or \*OBJREF) are given to the users.

**The user can specify up to four of the following values:**

**\*OBJEXIST**

The user is given object existence (\*OBJEXIST) authority to the object. The user can delete the object, free storage of the object, perform save and restore operations for the object, and transfer ownership of the object.

**\*OBJMGT**

The user is given object management (\*OBJMGT) authority to the object. With this authority the user can specify security for the object, move or rename the object and add members to database files.

### **\*OBJALTER**

The user is given object alter (\*OBJALTER) authority to the object. The user is able to alter the attributes of the objects. On a database file, the user can add and remove triggers, add and remove referential and unique constraints, and change the attributes of the database file. With this authority on an SQL package, the user can change the attributes of the SQL package. Currently, this authority is used only for database files and SQL packages.

### **\*OBJREF**

The user is given object reference (\*OBJREF) authority to objects. Used only for database files, the user can reference an object from another object such that operations on that object may be restricted by the other object. On a physical file, the user can add a referential constraint in which the physical file is the parent.

Top

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## **Auditing value for objects (CRTOBJAUD)**

Specifies the auditing value of objects created in this directory.

Values for this parameter other than \*SYSVAL may not be supported by some file systems.

### **\*SYSVAL**

The object auditing value for the objects in the directory is determined by the Create object auditing (QCRTOBJAUD) system value.

### **\*NONE**

Using or changing this object does not cause an audit entry to be sent to the security journal.

### **\*USRPRF**

The user profile of the user accessing this object is used to determine if an audit record is sent for this access. The OBJAUD parameter of the Change User Auditing (CHGUSRAUD) command is used to change the auditing for a specific user.

### **\*CHANGE**

All change accesses to this object by all users are logged.

**\*ALL** All change or read accesses to this object by all users are logged.

Top

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## **Scanning option for objects (CRTOBJSCAN)**

Specifies whether the objects created in a directory will be scanned when exit programs are registered with any of the integrated file system scan-related exit points.

The integrated file system scan-related exit points are:

- QIBM\_QP0L\_SCAN\_OPEN - Integrated File System Scan on Open Exit Program
- QIBM\_QP0L\_SCAN\_CLOSE - Integrated File System Scan on Close Exit Program

For details on these exit points, see the APIs topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

This attribute can only be specified for directories created in the "root" (/), QOpenSys and user-defined file systems. For all other file systems, \*PARENT should be specified and it will be ignored. Even though this attribute can be set for \*TYPE1 and \*TYPE2 directories, only objects which are in \*TYPE2 directories will actually be scanned, no matter what value is set for this attribute.

### **\*PARENT**

The create object scanning attribute value for this directory is copied from the create object scanning attribute value of the parent directory.

**\*YES** After an object is created in the directory, the object will be scanned according to the rules described in the scan-related exit programs if the object has been modified or if the scanning software has been updated since the last time the object was scanned.

**\*NO** After an object is created in the directory, the object will not be scanned by the scan-related exit programs.

**Note:** If the Scan file systems control (QSCANFCTL) value \*NOPOSTRST is not specified when an object with this attribute is restored, the object will be scanned at least once after the restore.

### **\*CHGONLY**

After an object is created in the directory, the object will be scanned according to the rules described in the scan-related exit programs only if the object has been modified since the last time the object was scanned. It will not be scanned if the scanning software has been updated. This attribute only takes effect if the Scan file systems control (QSCANFCTL) system value has \*USEOCOATR specified. Otherwise, it will be treated as if the attribute is \*YES.

**Note:** If the Scan file systems control (QSCANFCTL) value \*NOPOSTRST is not specified when an object with this attribute is restored, the object will be scanned at least once after the restore.

Top

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## **Restricted rename and unlink (RSTDRNMUNL)**

Specifies whether special restrictions apply for rename and unlink operations performed on objects within a directory. This attribute is equivalent to the S\_ISVTX mode bit and can only be set for a directory in the Network File System (NFS), QFileSvr.400, "root" (/), QOpenSys, or user-defined file systems. Both the NFS and QFileSvr.400 file systems support this attribute by passing it to the server and surfacing it to the caller.

**\*NO** No additional restrictions for renaming or unlinking objects from this directory.

**\*YES** Objects within this directory may be renamed or unlinked only if one or more of the following are true for the user performing the operation:

1. The user is the owner of the object.
2. The user is the owner of the directory.
3. The user has all object (\*ALLOBJ) special authority.

Top

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## **Examples**

### **Example 1: Creating a Directory**

```
CRTDIR DIR('MYDIR')
```

This command creates the directory MYDIR and adds it to the current directory. The defaults are used for the remaining parameters.

Top

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## Error messages

### \*ESCAPE Messages

**CPFA085**

Home directory not found for user &1.

**CPFA089**

Pattern not allowed in path name.

**CPFA09C**

Not authorized to object. Object is &1.

**CPFA09D**

Error occurred in program &1.

**CPFA0A0**

Object already exists. Object is &1.

**CPFA0A1**

An input or output error occurred.

**CPFA0A3**

Path name resolution causes looping.

**CPFA0A6**

Number of links exceeds maximum allowed for the file system.

**CPFA0A7**

Path name too long.

**CPFA0A9**

Object not found. Object is &1.

**CPFA0AA**

Error occurred while attempting to obtain space.

**CPFA0AB**

Operation failed for object. Object is &1.

**CPFA0AD**

Function not supported by file system.

**CPFA0B1**

Requested operation not allowed. Access problem.

Top

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## Create Document (CRTDOC)

**Where allowed to run:** Interactive environments (\*INTERACT  
\*IPGM \*IREXX \*EXEC)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Create Document (CRTDOC) command allows you to create a new document when using OfficeVision/400.

First the Create Document Details display is shown. Then, if the Enter key is pressed on this display, the Edit display is shown.

Top

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### Parameters

Keyword	Description	Choices	Notes
DOC	Document	<i>Character value</i>	Required, Positional 1
FLR	Folder	<i>Character value, *PRV</i>	Optional, Positional 2
TXTPRF	Text profile	<i>Name, *DFT, *SYSTEM</i>	Optional, Positional 3
TEXT	Document description	<i>Character value, *DFT</i>	Optional, Positional 4
DETAILS	Document details	<i>*YES, *NO</i>	Optional, Positional 5
EDIT	Edit document	<i>*YES, *NO</i>	Optional, Positional 6
EXITPNL	Display exit panel	<i>*YES, *NO</i>	Optional, Positional 7

Top

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### Document (DOC)

Specifies the name of the document to be created. A maximum of 12 characters can be specified in the required format (document.ext).

This is a required parameter.

Top

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### Folder (FLR)

Specifies the name of the folder that will contain the document being created.

**\*PRV** The name of the folder used in your last session will contain the document.

*folder-name*

Specify the name of the folder that will contain the document being created.

---

## Text profile (TXTPRF)

Specifies the text profile used as the base for the document.

**\*DFT** The default text profile is used.

**\*SYSTEM**

The system text profile is used.

*profile-name*

Specify the name of the text profile to use. A maximum of 12 characters can be specified.

Top

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## Document description (TEXT)

Specifies the document description.

**\*DFT** A default description is specified for the document.

*description*

Specify a maximum of 44 characters, enclosed in apostrophes.

Top

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## Document details (DETAILS)

Specifies whether to request or bypass the Document Details display.

**\*YES** The Document Details display is shown.

**\*NO** The Document Details display is not shown.

Top

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## Edit document (EDIT)

Specifies whether document editing is bypassed.

**\*YES** The document is edited after being created.

**\*NO** The document is not edited after being created.

Top

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## Display exit panel (EXITPNL)

Specifies whether the Exit Document display is shown when F3(Exit) or F12(Cancel) is pressed to end the editing.

**\*YES** The Exit Document display is shown when F3(Exit) or F12(Cancel) is pressed to end the editing.

**\*NO** The Exit Document display is not shown when F3(Exit) or F12(Cancel) is pressed to end the editing.

Top

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## Examples

CRTDOC DOC(NEWDOC) FLR(MYFLR)

This command creates a new document called NEWDOC in folder MYFLR.

Top

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## Error messages

### \*ESCAPE Messages

#### OFCFFFC

User storage capacity exceeded.

#### OFCFFFD

Damaged object found.

#### OFC8EA3

OfficeVision for AS/400 editor is not available to resolve to a display.

#### OFC80B5

OfficeVision for OS/400 editor is not available on the system.

#### OFC800A

Folder is in use.

#### OFC800E

&1 already exists as document or folder.

#### OFC800F

Display does not support text.

#### OFC8006

Folder not found.

#### OFC8008

Request not allowed with folder.

#### OFC801D

Maximum number of text sessions active.

#### OFC801E

DW editor or text assist cannot be loaded.

#### OFC8017

Folder directory is full.

#### OFC8019

Required module not on system.

#### OFC802E

Request failed for PC editor.

#### OFC821B

Document &1 needs to be reclaimed.

#### OFC9811

Folder needs to be reclaimed.

Top





# Create Display File (CRTDSPF)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Display File (CRTDSPF) command creates a display device file. The device file contains the file description, which identifies the device used and, optionally, the record formats used by the device (if specified in data description specifications (DDS)); the device file does not contain data. The display device file sends records to one or more display devices associated with the device file, and to receive records from the display devices.

The display file description contains of information that is specified in two places: (1) in the source file that contains the DDS (if used); and (2) in the CRTDSPF command. The DDS contains the specifications for each record format in the device file and for the fields in each record format.

The Change Display File (CHGDSPF) or Override Display File (OVRDSPF) command is used in a program to change or override the parameter values specified in the display file description; the override command must be run before the display file is opened by the program. Overridden values are changed only for the running of the program; once the program ends, the original parameter values specified for the display file are used.

**Note:** If an application program attempts to acquire a work station on a switched line and the line connection has been lost or has never been established, the application program waits indefinitely until the connection is established.

Top

## Parameters

Keyword	Description	Choices	Notes
FILE	File	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
SRCFILE	Source file	Single values: *NONE Other values: <i>Qualified object name</i>	Optional, Positional 2
	Qualifier 1: Source file	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
SRCMBR	Source member	<i>Name, *FILE</i>	Optional, Positional 3
GENLVL	Generation severity level	0-30, <b>20</b>	Optional
FLAG	Flagging severity level	0-30, <b>0</b>	Optional
DEV	Display device	Single values: *NONE Other values (up to 50 repetitions): <i>Name, *REQUESTER</i>	Optional
IGCDTA	User specified DBCS data	<b>*NO, *YES</b>	Optional
IGCEXNCHR	DBCS extension characters	<b>*YES, *NO</b>	Optional
TEXT	Text 'description'	<i>Character value, *SRCMBRTXT, *BLANK</i>	Optional
OPTION	Source listing options	Values (up to 4 repetitions): *SRC, *NOSRC, *SOURCE, *NOSOURCE, *LIST, *NOLIST, *SECLVL, *NOSECLVL, *EVENTF, *NOEVENTF	Optional, Positional 4

Keyword	Description	Choices	Notes
MAXDEV	Maximum devices	1-256, <u>1</u>	Optional
ENHDSP	Enhanced display	<u>*YES</u> , *NO	Optional
RSTDSP	Restore display	* <u>NO</u> , *YES	Optional
DFRWRT	Defer write	<u>*YES</u> , *NO	Optional
CHRID	Character identifier	Single values: <u>*DEV</u> D, *SYSVAL, *JOBCCSID, *CHRIDCTL Other values: <i>Element list</i>	Optional
	Element 1: Graphic character set	<i>Integer</i>	
	Element 2: Code page	<i>Integer</i>	
DECfmt	Decimal format	*FILE, <u>*JOB</u>	Optional
SFLENDTXT	SFLEND text	*FILE, <u>*MSG</u>	Optional
WAITFILE	Maximum file wait time	<i>Integer</i> , <u>*IMMED</u> , *CLS	Optional
WAITRCD	Maximum record wait time	<i>Integer</i> , <u>*NOMAX</u> , *IMMED	Optional
DTAQ	Data queue	Single values: <u>*NONE</u> Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Data queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <u>*LIBL</u> , *CURLIB	
SHARE	Share open data path	* <u>NO</u> , *YES	Optional
SRTSEQ	Sort sequence	Single values: <u>*JOB</u> , *LANGIDSHR, *LANGIDUNQ, *HEX Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Sort sequence	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , <u>*LIBL</u> , *CURLIB	
LANGID	Language ID	<i>Character value</i> , <u>*JOB</u>	Optional
LVLCHK	Record format level check	<u>*YES</u> , *NO	Optional
AUT	Authority	<i>Name</i> , <u>*LIBCRTAUT</u> , *ALL, *CHANGE, *EXCLUDE, *USE	Optional
REPLACE	Replace file	<u>*YES</u> , *NO	Optional

Top

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## File (FILE)

Specifies the display device file to be created.

If the display device file is used in a high-level language program, the file name should be consistent with the naming rules of that language. Otherwise, the file must be renamed in the program.

This is a required parameter.

### Qualifier 1: File

*name* Specify the name of the display file to be created.

### Qualifier 2: Library

#### \*CURLIB

The current library for the job is used to locate the display device file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where the display file is created.

---

## Source file (SRCFILE)

Specifies the source file (if specified) containing the data description specifications (DDS) source used to create the display device file.

### Single values

#### \*NONE

There is no DDS source for this display device file.

### Qualifier 1: Source file

*name* Specify the name of the source file that contains the DDS used to create the display device file.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the file. If no library is specified as the current library for the job, QGPL is used.

*name* Specifies the library where the file is located.

---

## Source member (SRCMBR)

Specifies the source file member that contains the DDS source for the display device file being created.

\*FILE The source file member name is the same as the name specified for the **File (FILE)** parameter.

*name* Specify the name of the member in the source file.

---

## Generation severity level (GENLVL)

Specifies the severity level of data description specifications (DDS) messages that cause file creation to fail. This parameter applies only to messages created while processing DDS source files.

20 If errors occur in the DDS source file processing with a severity level greater than or equal to 20, the file is not created.

*0-30* Specify the desired severity level value. If 0 is specified, the file is not created. The value specified must be greater than or equal to the value specified for the **Flagging severity level (FLAG)** parameter.

---

## Flagging severity level (FLAG)

Specifies the minimum severity level of messages to be listed.

0 All messages are to be listed.

**0-30** Specify a number indicating the minimum severity of messages to be listed. The value specified must be less than or equal to the value specified for the **Generation severity level (GENLVL)** parameter.

Top

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## Display device (DEV)

Specifies the names of one or more display devices that are used with this display file to pass data records between the users of the display devices and their jobs.

### Single values

#### **\*NONE**

No display device name is specified. The name of the display device must be specified later in a Change Display File (CHGDSPF) command or Override with Display File (OVRDSPF) command, or in the high-level language program that opens the file.

### Other values (up to 50 repetitions)

#### **\*REQUESTER**

The display device from which the program is called is the device assigned to the file when the file is opened.

*name* Specify the names of one or more display devices. \*REQUESTER can be specified as one of the names. A maximum of 50 device names (including \*REQUESTER) can be specified, but the total number cannot exceed the number specified for the **Maximum devices (MAXDEV)** parameter when the file is opened.

Top

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## User specified DBCS data (IGCDTA)

Specifies, for program-described files, whether the file processes double-byte character set (DBCS) data. Specifies, for externally described files, the DBCS attributes of the file.

### For program-described files

**\*NO** The file does not process double-byte character set (DBCS) data.

**\*YES** The file processes double-byte character set (DBCS) data.

### For externally-described files

**\*NO** The only double-byte character set (DBCS) attributes of the file are those specified in the data description specifications (DDS).

**\*YES** DBCS attributes, in addition to those specified in the DDS, include: (1) putting the DDS keyword for alternative data type (IGCALTTYP) into effect and (2) identifying DBCS attributes of fields, values, or messages.

Top

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## DBCS extension characters (IGCEXNCHR)

Specifies whether the system processes double-byte character set (DBCS) extended characters. When processing DBCS extended characters, the device requires the assistance of the system. The system must tell the device what the character looks like before the device can display or print the character. Extended characters are stored in a DBCS font table, not in the DBCS device. Extended character processing is a function of the operating system that is required to make characters stored in a DBCS font table available to a DBCS device.

**\*YES** The system processes DBCS extended characters.

**\*NO** The system does not process DBCS extended characters; it displays extended characters as the undefined character.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### **\*SRCMBRTXT**

If the source file is a database file, the text is taken from the source file member used to create the file. If the source file is an inline file or a device file, the text is blank.

### **\*BLANK**

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Source listing options (OPTION)

Specifies the type of output produced when the file is created. A maximum of four of the following values can be specified in any order on this parameter. If neither or both of the values on an option are specified, the first value listed for the option is used.

**Note:** The first values on each option are similar to, but are not actually default values, and therefore, cannot be changed with the CHGCMDDFT (Change Command Default) command.

### Source Listing Option

#### **\*SRC or \*SOURCE**

A printout of the source statements, including a list of errors, is created.

#### **\*NOSRC or \*NOSOURCE**

No printout of the source statements is created unless errors are detected. If errors are detected, they are listed along with the keyword or record format that caused the error.

### Program Listing Option

**\*LIST** An expanded source printout is created, showing a detailed list of the file specifications and the references to other file descriptions.

#### **\*NOLIST**

The expanded source printout is not created.

### Second-Level Message Text Option

### \*NOSECLVL

The messages section of the data description specifications (DDS) printout does not contain the online help information for messages issued during DDS processing.

### \*SECLVL

The online help information appears in the DDS printout.

## Event File Creation Option

### \*NOEVENTF

The compiler does not produce an event file for the CoOperative Development Environment for i5/OS (CODE for i5/OS) product.

### \*EVENTF

The compiler produces an event file that can be used by the CODE for i5/OS product. The event file is created as a member in the file EVFEVENT in your object library. The CODE for i5/OS product uses this file to offer error feedback integrated with the CODE for i5/OS editor. This value is normally specified by the CODE for i5/OS product on your behalf.

Top

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## Maximum devices (MAXDEV)

Specifies the maximum number of display devices that can be connected to the display device file at the same time while the file is open.

1 Only one device name, or \*REQUESTER, can be specified for this display device file.

1-256 Specify the maximum number of devices that can be connected to the display device file at the same time.

Top

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## Enhanced display (ENHDSP)

Specifies whether the data being shown at a display station by this display file is using the enhanced capabilities available on the display station.

\*YES The data for the display file is shown using any enhanced capabilities available on the display station. These capabilities can include mnemonics, selection cursor, and graphical window borders.

\*NO The data for this display file is shown as it would be on a 5250 display station. No enhanced capabilities that are available on the display, such as mnemonics, selection cursor, or graphical window borders, are used. This value is normally used to preserve character-based interaction across all display stations.

Top

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## Restore display (RSTDSP)

Specifies whether data being shown at a display device by this display file is saved at the time the file is suspended (made temporarily inactive) so that another display file can show different data on the same device. If the data for this file is saved, it is restored to the display of the device when the file is used again.

\*NO The data being shown by this file is not saved when the file is suspended.

**\*YES** The data being shown when this file is suspended is saved, and it is restored to the device display when the file is used again.

Top

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## Defer write (DFRWRT)

Specifies that the writing of data is delayed until it is written out with other data when a read request is made. Control is returned to the program immediately after the data is received.

**\*YES** When the program issues a write request, control is returned after the buffer is processed. This may result in improved performance.

**\*NO** After a write operation, the user program does not regain control until the input/output is completed.

Top

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## Character identifier (CHRID)

Specifies the type of character conversions that may occur for the display file. When necessary, the system converts character data sent to and received from the device. This ensures that the correct hexadecimal byte values of characters are sent to the device and are returned to the application program.

### Single values

#### **\*DEV**

Specifies the CHRID of the device is used to represent the CCSID of the field data for every named field with the CHRID DDS keyword. No conversion will ever occur since the CCSID of the field data will always be the same as the CHRID of the device.

#### **\*SYSVAL**

Specifies the QCHRID system value is used to represent the CCSID of the field data for every named field with the CHRID DDS keyword. Conversion will only occur for these specific fields when CCSID of the field data is different than the CHRID of the device.

#### **\*JOBCCSID**

Specify character conversion occurs when a difference exists between the device CHRID, job CCSID or display file CCSID values. On input, character data is converted from the device CHRID to the job CCSID when necessary. On output, character data is converted from the job CCSID to the device CHRID when necessary. On output, constant character data in the display file is converted from the display file CCSID to the device CHRID when necessary.

**Note:** The \*JOBCCSID special value, either specified directly on the CHRID command parameter or on the CHRIDCTL job attribute when the \*CHRIDCTL special value is specified for the CHRID command parameter, is not allowed if the file was created on a system at an earlier release level than V2R3M0. A file created prior to V2R3M0 will not be tagged with a CCSID and can not be used in combination with the \*JOBCCSID support.

#### **\*CHRIDCTL**

Specifies that the system checks the CHRIDCTL job attribute to determine whether to use the \*JOBCCSID or \*DEV special values on the CHRID command parameter for this display file.

### Element 1: Graphic character set

#### *integer*

Specify the number of the graphic character set to be used. Valid values range from 1 through 32767.

## Element 2: Code page

### *integer*

Specify the number of the code page to be used. Valid values range from 1 through 32767.

**Note:** The graphic character set and code page specifies the value used to represent the CCSID of the field data for every named field with the CHRID DDS keyword. Conversion will only occur for these specific fields when CCSID of the field data is different than the CHRID of the device.

Top

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## Decimal format (DECFMT)

Specifies which decimal format value is used when editing numeric fields with the EDTCDE DDS keyword. The decimal format value determines the use of commas and periods for the decimal position and three digit positional separators on edited fields.

**\*JOB** Use the decimal format value from the DECFMT job attribute when the file is opened.

**\*FILE** Use the decimal format value stored with the file when the file was created.

Top

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## SFLEND text (SFLENDTXT)

Specifies where the 'More...' and 'Bottom' text is retrieved from when displaying a subfile. The 'More...' and 'Bottom' text is displayed in a subfile when the SFLEND(\*MORE) DDS keyword is specified on the subfile control record.

**\*MSG** Use the 'More...' and 'Bottom' text retrieved from messages CPX6AB1 and CPX6AB2 which exist in the current active language of the system when the file is opened.

**\*FILE** Use the 'More...' and 'Bottom' text that is stored in the file during file creation. This text was retrieved from messages CPX6AB1 and CPX6AB2 which exist in the active language of the system when the file was created.

Top

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## Maximum file wait time (WAITFILE)

Specifies the number of seconds that the program waits for the file resources to be allocated when the file is opened, or the device or session resources to be allocated when an acquire operation is performed to the file. If the file resources cannot be allocated in the specified wait time, an error message is sent to the program.

### **\*IMMED**

The program does not wait. Immediate allocation of file resources is required.

**\*CLS** The job default wait time is used as the wait time for the file resources to be allocated.

### **1-32767**

Specify the number of seconds to wait for file resources to be allocated.

Top



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## Maximum record wait time (WAITRCD)

Specifies the number of seconds the program waits for the completion of a read-from-invited-devices operation to a multiple device file in a high-level language program. Refer to the high-level language reference manual to determine when a file is treated as a multiple device file. The program performing the read operation waits for the input from all invited devices currently accessing the file. If a record is not returned from any of the invited program devices in the specified amount of time, a notify message is sent to the program. This parameter has no effect on an input operation directed to a single device.

### \*NOMAX

There is no limit on the time the system waits for the completion of the operation.

### \*IMMED

The program does not wait. If a record is not available when the read-from-invited-devices operation is done, a notify message is sent to the program.

### *integer*

Specify the maximum number of seconds that the program waits. Valid values range from 1 through 32767 seconds.

Top

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## Data queue (DTAQ)

Specifies the data queue on which entries are placed. The specified data queue must have a minimum length of 80 characters. The data queue need not exist when the display file is created since the name specified for this parameter is not evaluated until the file is used.

**Note:** Keyed data queues are not supported for this parameter. If a keyed data queue is specified, a run-time error will occur; but because it is not required that a data queue exist at the time the command is issued, the error will not be flagged.

### Single values

#### \*NONE

No data queue is specified.

### Qualifier 1: Data queue

*name* Specify the name of the data queue on which entries are placed.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library is used to locate the data queue. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where the data queue is located.

Top

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## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

- \*NO** The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.
- \*YES** The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

Top

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## Sort sequence (SRTSEQ)

Specifies the sort sequence used for this user profile. The sort sequence is used in conjunction with the LANGID parameter to determine which sort sequence table is used.

### Single values

- \*JOB** The SRTSEQ value specified on the job attribute is used.
- \*LANGIDSHR**  
The sort sequence table can contain the same weight for multiple characters, and is the shared weighted table associated with the language specified in the LANGID parameter.
- \*LANGIDUNQ**  
The sort sequence table must contain a unique weight for each character in the code page.
- \*HEX** A sort sequence table is not used, and the hexadecimal values of the characters are used to determine the sort sequence.

### Qualifier 1: Sort sequence

*name* Specify the name of the sort sequence table to be used.

### Qualifier 2: Library

- \*LIBL** All libraries in the library list for the current thread are searched until the first match is found.
  - \*CURLIB**  
The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.
- name* Specify the name of the library to be searched.

Top

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## Language ID (LANGID)

Specifies the language identifier used when \*LANGIDSHR or \*LANGIDUNQ is specified for the **Sort sequence (SRTSEQ)** parameter. The language identifier is used with the SRTSEQ parameter to determine which sort sequence table the file uses.

- \*JOB** The language identifier specified for the job is used.

### *character-value*

Specify a language identifier. To see a complete list of identifiers when prompting this command, position the cursor on the field for this parameter and press F4 (Prompt).

Top

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## Record format level check (LVLCHK)

Specifies whether the level identifiers of the record formats in the display device file are checked when the file is opened by a program.

**\*YES** The level identifiers of the record formats are checked. If the level identifiers do not all match, an open error message is sent to the program requesting the open operation.

**\*NO** The level identifiers are not checked when the file is opened.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Replace file (REPLACE)

Specifies whether an existing file, other than a save or database file, is replaced.

**Note:** The existing file cannot be replaced if it is in use by this job or another job.

**Note:** The authority value for the file is determined by the user profile of the user. If an existing file is replaced, the authority value for the new file is copied from the replaced file.

**\*YES** An existing file is replaced if the creation of the new display device file with the same name and library is successful.

**\*NO** The creation of a new display device file is not allowed if there is an existing display device file with the same name and library.

Top

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## Examples

### Example 1: Specifying Default Optional Parameters

```
CRTDSPF FILE(DSPHIST) SRCFILE(PRSNNL/JOBHIST)
```

This command creates a display device file named DSPHIST which is stored in the current library using the source file named JOBHIST that is stored in the PRSNNL library. The defaults for all the other parameters are assumed. Only the device requesting the program that uses this device file (that is, \*REQUESTER) is assigned to the device file. The level identifiers of the record formats are checked when the file is opened. The public has only object operational authority for the device file.

### Example 2: Specifying DBCS Data Processing

```
CRTDSPF FILE(IGCDSP) SRCFILE(IGCLIB/IGCSRC) IGCDTA(*YES)
```

This command creates the display file IGCDSP from the source file IGCSRC in the library IGCLIB. The file processes double-byte character set (DBCS) data.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF7302

File &1 not created in library &2.

Top

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## Create Distribution List (CRTDSTL)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

[Parameters](#)  
[Examples](#)  
[Error messages](#)

The Create Distribution List (CRTDSTL) command allows you to create a new distribution list, which is a list of entries from the distribution directory. It can include entries for local users, remote users, indirect users, and programmable work station users. It can also include remote distribution lists, but not local distribution lists. The Create Distribution List (CRTDSTL) command creates the distribution list with no entries. The Add Distribution List Entry (ADDDSTLE) command is used to add entries to the distribution list.

**Restriction:** The list identifier (ID) must be unique to all local user IDs, as well as to other list IDs in the directory.

[Top](#)

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### Parameters

Keyword	Description	Choices	Notes
LSTID	List identifier	<i>Element list</i>	Required, Positional 1
	Element 1: List ID	<i>Character value</i>	
	Element 2: List ID qualifier	<i>Character value</i>	
LSTD	List description	<i>Character value</i>	Required, Positional 2
CMDCHRID	Command character identifier	Single values: *SYSVAL, *DEVVD Other values: <i>Element list</i>	Optional
	Element 1: Graphic character set	<i>Integer</i>	
	Element 2: Code page	<i>Integer</i>	

[Top](#)

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### List identifier (LSTID)

Specifies the unique, two-part list identifier of the distribution list. The same rules and restrictions that apply to user ID and address also apply to the distribution list ID. A maximum of 8 characters can be specified for each part.

This is a required parameter.

If any lowercase characters are specified, the system changes them to, and stores them as, uppercase characters.

[Top](#)

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## List description (LSTD)

Specifies the description of the distribution list that further identifies the distribution list. A maximum of 50 characters can be specified.

Top

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## Command character identifier (CMDCHRID)

Specifies the character identifier (graphic character set and code page) for the data being entered as command parameter values.

### Note:

- Only the user ID and address, system name and group, department, and the X.400 O/R parameters are translated to the graphic character set identifier (GCID) specified on this parameter. All other parameter values that you specify are stored exactly as they are entered; the GCID value is stored with them.
- If this command is run interactively, the default GCID value is taken from the display device description. If it is run in batch, the default GCID value is taken from the QCHRID system value. You can override these values by specifying a specific character set and code page on this parameter.

### Single values

#### \*SYSVAL

The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

#### \*DEVDD

The system determines the graphic character set and code page values from the display device description where this command was entered. This option is valid only when entered from an interactive job. If this option is specified in a batch job, an error occurs.

### Element 1: Graphic character set

1-32767

Specify the graphic character set to use.

### Element 2: Code page

1-32767

Specify the code page to use.

Top

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## Examples

```
CRTDSTL  LSTID(DEPT48K DLIST)
          LSTD('Department 48K Distribution List')
```

This command creates a distribution list that contains the members of Department&rb1.48K. If this list ID is unique, the distribution list is created.

Top

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## Error messages

### \*ESCAPE Messages

**CPF9009**

System requires file &1 in &2 be journaled.

**CPF905C**

Error occurred trying to find a translation table.

**CPF9088**

List &1 &2 not created in the directory.

**CPF9096**

Cannot use CMDCHRID(\*DEVLD), DOCCHRID(\*DEVLD) in batch job.

**CPF9838**

User profile storage limit exceeded.

**CPF9845**

Error occurred while opening file &1.

**CPF9846**

Error while processing file &1 in library &2.

Top





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## Create Data Area (CRTDTAARA)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Conditional

Parameters  
Examples  
Error messages

The Create Data Area (CRTDTAARA) command creates a data area and stores it in a specified library. It also specifies the attributes of the data. The data area can also be initialized to a specific value.

Data areas are used to communicate and store data used by several programs either within a job or between jobs. A program can use the value of a data area by using the Retrieve Data Area (RTVDTAARA) command.

If a data area is not used by more than one job at a time, it can be explicitly allocated to the appropriate job. If a data area is used by two or more jobs at the same time, it is protected from simultaneous changes occurring from different jobs. A data area is changed by using the Change Data Area (CHGDTAARA) command. The system does not allow two commands to change the same data area at the same time.

A data area is updated in auxiliary storage any time it is changed. This ensures that the changes are not lost in the event of a program or system failure.

The CRTDTAARA command can optionally create a distributed data management (DDM) data area. This is done by specifying \*DDM for the TYPE parameter. The DDM data area is used as a reference data area by programs to access data areas located on a remote (target) system in the DDM network. Programs on the local (source) system reference a remote data area by the DDM data area's name, not by the remote data area's name. The DDM data area name can be the same as the remote data area name).

The DDM data area on the source system contains the name of the remote data area and the name of the remote (target) system on which the remote data area is located.

The DDM data area can be used with the RTVDTAARA and CHGDTAARA commands to retrieve and update data areas on remote systems.

The data area can be journaled when created. Refer to the Start Journal Library (STRJRNLIB) command for more information.

### Restrictions:

1. To use this command, the user must have object operational and add authority for the library in which the data area is placed.
2. This command is conditionally threadsafe. The following restrictions apply:
  - a. Creating DDM data areas in a job that allows multiple threads is not threadsafe.
  - b. Creating DDM data areas will fail when more than one thread is active in a job.

Top

## Parameters

Keyword	Description	Choices	Notes
DTAARA	Data area	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Data area	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
TYPE	Type	*DEC, *CHAR, *LGL, *DDM	Required, Positional 2
LEN	Length	<i>Element list</i>	Optional, Positional 3
	Element 1: Length	1-2000	
	Element 2: Decimal positions	0-9	
VALUE	Initial value	<i>Not restricted</i>	Optional, Positional 4
RMTDTAARA	Remote data area	<i>Qualified object name</i>	Optional
	Qualifier 1: Remote data area	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
RMTLOCNAME	Remote location	<i>Communications name, *RDB</i>	Optional
RDB	Relational database	<i>Name</i>	Optional
DEV	APPC device description	<i>Name, *LOC</i>	Optional
LCLLOCNAME	Local location	<i>Communications name, *LOC, *NETATR</i>	Optional
MODE	Mode	<i>Communications name, *NETATR</i>	Optional
RMTNETID	Remote network identifier	<i>Communications name, *LOC, *NETATR, *NONE</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

## Data area (DTAARA)

Specifies the name and library of the data area being created.

This is a required parameter.

### Qualifier 1: Data area

*name* Specify the name of the data area being created.

### Qualifier 2: Library

#### \*CURLIB

The data area is created in the current library for the thread. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the data area is created.

Top

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## Type (TYPE)

Specifies the type of value contained in the data area being created. The type can contain a character value, a decimal value, or a logical value (1 or 0), or a distributed data management (DDM) data area can be created.

This is a required parameter.

**\*DEC** This data area contains a decimal value.

**\*CHAR**  
This data area contains a character string value.

**\*LGL** This data area contains a logical value of either one (1) or zero (0) that can be used to represent two opposing conditions such as on/off, true/false, or yes/no.

**\*DDM**  
The data area being created is a DDM data area. The data area contains the name of the remote data area accessed and the name of the remote (target) system that the data area is located on.

Top

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## Length (LEN)

Specifies the length of the data area being created. If it is a decimal data area, the number of decimal digits to the right of the decimal point can be optionally specified. The type of data area determines the maximum length that a value in that area can have and the default length that is assumed when a length is not specified. The maximum lengths and the defaults for each of the three types are as follows:

- Decimal
  - Maximum — 24 digits, 9 decimal positions
  - Default — 15 digits, 5 decimal positions
- Character
  - Maximum — 2000 characters
  - Default — 32 characters
- Logical — Maximum and default, 1 character

**Note:** For character types, the default length is the same as the length of the initial value, if one is specified for the **Initial value (VALUE)** parameter.

### Element 1: Length

**1-2000** Specify the length that the value in this data area can have. The length of the value in the data area includes the number of decimal positions in the value. The maximum length of the decimal value is 24 digits, of which no more than 9 can be to the right of the decimal point. In order to use the data area in CL programs, the total length must be limited to 15 digits.

### Element 2: Decimal positions

**0-9** Specify the number of digits to the right of the decimal point for **decimal (\*DEC)** data areas. If this is not specified, a value of 0 is assumed.

Top

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## Initial value (VALUE)

Specifies the initial value that is assigned to the data area when it is created. The value must be of the type specified for the **Type (TYPE)** parameter of this command. If no value is specified, a character data area is initialized to blanks, a decimal data area is initialized to a value of 0, and a logical data area is initialized to 0.

### *unrestricted-value*

Specify the initial value of the data area.

Top

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## Remote data area (RMTDTAARA)

Specifies the name of the remote data area on the target system. The data area does not need to exist when the DDM data area is created.

### Qualifier 1: Remote data area

*name* Specify the name of the remote data area.

### Qualifier 2: Library

\***LIBL** The library list of the called thread on the target system is searched to locate the data area.

### \***CURLIB**

The current library of the called thread on the target system is searched to locate the data area. If the called thread does not have a current library, the QGPL library is used.

*name* Specify the library where the remote data area is located.

Top

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## Remote location (RMTLOCNAME)

Specifies the name of the remote location that is used with this object.

**Note:** Multiple DDM data areas can use the same remote location for the target system. The remote locations used must point to systems that are at a release of the operating system that supports remote data areas.

\***RDB** The remote location information from the relational database entry specified for the **Relational database (RDB)** parameter is used to determine the remote system.

### *communications-name*

Specify the name of the remote location that is associated with the target system. The remote location, which is used in accessing the target system, does not need to exist when the DDM data area is created but must exist when the DDM data area is accessed.

More information on remote locations is in the APPC Programming book, SC41-5443.

Top

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## Relational database (RDB)

Specifies the relational database entry that is used to determine the remote location information for the DDM data area.

### *communications-name*

Specify the name of the relational database entry that identifies the target system or target ASP group. The relational database name can refer to a remote system or an ASP group that is configured and available on a remote system. The relational database entry does not need to exist when the DDM data area is created but must exist when the DDM data area is opened. This parameter is required when \*RDB is specified for the **Remote location (RMTLOCNAME)** parameter.

Top

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## **APPC device description (DEV)**

Specifies the name of the APPC device description on the source system that is used with this DDM data area. The device description does not need to exist when the DDM data area is created.

**\*LOC** The device associated with the remote location is used. If several devices are associated with the remote location, the system determines which device is used.

*name* Specify the name of a communications device associated with the remote location. If the device name is not valid for the remote location, a message is sent when the program device entry is acquired. More information on device names is in the APPC Programming book, SC41-5443.

Top

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## **Local location (LCLLOCNAME)**

Specifies the local location name.

**\*LOC** The device associated with the remote location is used. If several devices are associated with the remote location, the system determines which device is used.

**\*NETATR**

The **Default local location name (LCLLOCNAME)** specified in the system network attributes is used.

### *communications-name*

Specify the name of the local location that is associated with the remote location. The local location name is specified only if the user indicates a specific local location for the remote location. If the local location name is not valid for the remote location, an escape message is sent when the DDM data area is accessed. More information on local location names is in the APPC Programming book, SC41-5443.

Top

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## **Mode (MODE)**

Specifies the mode name that is used with the remote location name to communicate with the target system.

**\*NETATR**

The **Default mode (DFTMODE)** specified in the system network attributes is used.

### *communications-name*

Specify the name of the mode that is used. If the mode name is not valid for any combination of remote location and local location, an escape message is sent when the DDM data area is accessed.

More information on mode names is in the APPC Programming book, SC41-5443.

---

## Remote network identifier (RMTNETID)

Specifies the remote network identifier (ID) in which the remote location resides that is used to communicate with the target system.

**\*LOC** The remote network ID associated with the remote location is used. If several remote network IDs are associated with the remote location, the system determines which remote network ID is used.

**\*NETATR**  
The **Local network ID (LCLNETID)** specified in the system network attributes is used.

**\*NONE**  
A remote network ID is not used.

### *communications-name*

Specify the remote network ID that is associated with the remote location. The remote network ID is specified only if the user indicates a specific remote network ID for the remote location. If the remote network ID is not valid for the remote location, an escape message is sent when the DDM data area is accessed.

More information on remote network IDs is in the APPC Programming book, SC41-5443.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

**\*BLANK**  
No text is specified.

*'description'*  
Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

**\*LIBCRTAUT**  
The authority for the object is taken from the value specified for the **Create authority (CRTAUT)** parameter of the library in which the object is being created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**\*CHANGE**  
The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence,

specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**  
The user cannot access the object.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Creating a Data Area with a Value of Zero

```
CRTDTAARA  DTAARA(TOTSALES)  TYPE(*DEC)  LEN(15 2)
           VALUE(0)  TEXT('Total sales accumulator')
```

This command creates a data area named TOTSALES and stores it in the current library specified for the thread. TOTSALES has the following data attributes: it is a 15-position numeric data area with two decimal positions and with an initial value of 0.

### Example 2: Creating a Data Area Initialized to Blanks

```
CRTDTAARA  DTAARA(CUSTOMER)  TYPE(*CHAR)  LEN(148)
           TEXT('Customer name area')
```

This command creates the data area named CUSTOMER. It can contain as many as 148 characters in the character string. Because no initial value is specified, the data area is initialized to blanks.

### Example 3: Creating a DDM Data Area to Access a Data Area at Another System

```
CRTDTAARA  DTAARA(SOURCE/SALES)  TYPE(*DDM)
           RMTDTAARA(REMOTE/SALES)  RMTLOCNAME(NEWYORK)
```

This command creates a DDM data area named SALES, and stores it in the SOURCE library on the source system. This DDM data area uses the remote location named NEWYORK to access a remote data area named SALES stored in the REMOTE library on a system in New York.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF1008

Data area &2 not created.

- CPF1015**  
Data area &1 in &2 not found.
- CPF1021**  
Library &1 not found for data area &2.
- CPF1022**  
No authority to library &1 data area &2.
- CPF1023**  
Data area &1 exists in &2.
- CPF1024**  
TYPE and VALUE parameters not compatible.
- CPF1025**  
LEN and VALUE parameters not compatible.
- CPF1026**  
VALUE parameter must be '0' or '1'.
- CPF1047**  
Length not valid for data area &1 in &2
- CPF1062**  
Null string not valid as character value.
- CPF1092**  
Cannot create data area &2 in library &1.
- CPF180B**  
Function &1 not allowed.
- CPF9802**  
Not authorized to object &2 in &3.

[Top](#)



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## Create Data Dictionary (CRTDTADCT)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Create Data Dictionary (CRTDTADCT) command creates a data dictionary. A data dictionary must be created before the user can use the Interactive Data Definition Utility (IDDU) to describe and create database files. The user can create a data dictionary with IDDU or with the CRTDTADCT command. More information is in the IDDU Use book, SC41-5704.

Top

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### Parameters

Keyword	Description	Choices	Notes
DTADCT	Data dictionary	<i>Name</i>	Required, Positional 1
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

---

### Data dictionary (DTADCT)

Specifies the name that the data dictionary is assigned when it is created. The dictionary name must be the same as the library name where it is created. The library must already exist.

This is a required parameter.

Top

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### Text 'description' (TEXT)

Specifies the text that briefly describes the object.

The possible values are:

**\*BLANK**

No text is specified.

**'description'**

Specify text no longer than 50 characters enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

The possible values are:

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified on the **Create authority** prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the **Create authority** prompt (CRTAUT parameter) is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

### *authorization-list-name*

Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Creating a Data Dictionary and Granting USE Authority

```
CRTDTADCT  DTADCT(DEPT547)  AUT(*USE)
           TEXT('dept547 dictionary')
```

This command creates a data dictionary named DEPT547 in library DEPT547. The authority given for the dictionary to other users is \*USE.

### Example 2: Creating a Restricted Data Dictionary

```
CRTDTADCT  DTADCT(DEPT245)  AUT(MYLIST)
           TEXT('restricted dictionary')
```

This command creates a restricted data dictionary named DEPT245 in library DEPT245. The authority given for the dictionary to the users comes from the authorization list named MYLIST.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2DAB

Authority list &1 not found

#### CPF2D71

Dictionary name cannot be &1.

#### CPF2F04

Dictionary &1 already exists.

#### CPF2F07

Dictionary &1 in error.

#### CPF2F11

Dictionary &1 not created.

#### CPF9820

Not authorized to use library &1.

#### CPF9830

Cannot assign library &1.

Top



## Create Data Queue (CRTDTAQ)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: Yes

Parameters  
 Examples  
 Error messages

The Create Data Queue (CRTDTAQ) command creates a data queue and stores it in a specified library.

Data queues, which are a type of i5/OS system object, are used to communicate and store data used by several programs either within a job or between jobs. Multiple jobs can send or receive data from a single queue.

For more information about data queues on output queues, see the Printing category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

The Create Data Queue (CRTDTAQ) command optionally creates a distributed data management (DDM) data queue when TYPE(\*DDM) is specified. The DDM data queue is used as a reference data queue by programs to access data queues located on a remote (target) system in the DDM network. Programs on the local (source) system refer to a remote data queue by the DDM data queue's name, not by the remote data queue's name. The DDM data queue name, however, can be the same as the remote data queue name.

The DDM data queue on the source system contains the name of the remote data queue and the name of the remote (target) system on which the remote data queue is located.

**Restrictions:** Users of this command must have add (\*ADD) authority for the library where the data queue is located.

Top

### Parameters

Keyword	Description	Choices	Notes
DTAQ	Data queue	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Data queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
TYPE	Type	<i>*STD, *DDM</i>	Optional
MAXLEN	Maximum entry length	1-64512	Optional, Positional 2
FORCE	Force to auxiliary storage	<i>*NO, *YES</i>	Optional
SEQ	Sequence	<i>*FIFO, *LIFO, *KEYED</i>	Optional
KEYLEN	Key length	1-256	Optional
SENDERID	Include sender ID	<i>*NO, *YES</i>	Optional
SIZE	Queue size	<i>Element list</i>	Optional
	Element 1: Maximum number of entries	<i>Integer, *MAX16MB, *MAX2GB</i>	
	Element 2: Initial number of entries	<i>Integer, 16</i>	
AUTORCL	Automatic reclaim	<i>*NO, *YES</i>	Optional

Keyword	Description	Choices	Notes
RMTDTAQ	Remote data queue	<i>Qualified object name</i>	Optional
	Qualifier 1: Remote data queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
RMTLOCNAME	Remote location	<i>Communications name, *RDB</i>	Optional
RDB	Relational database	<i>Name</i>	Optional
DEV	APPC device description	<i>Name, *LOC</i>	Optional
LCLLOCNAME	Local location	<i>Communications name, *LOC, *NETATR</i>	Optional
MODE	Mode	<i>Communications name, *NETATR</i>	Optional
RMTNETID	Remote network identifier	<i>Communications name, *LOC, *NETATR, *NONE</i>	Optional
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

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## Data queue (DTAQ)

Specifies the data queue to be created.

This is a required parameter.

### Qualifier 1: Data queue

*name* Specify the name of the data queue.

### Qualifier 2: Library

#### \*CURLIB

The current library for the job is used to locate the data queue. If no current library entry exists in the library list, QGPL is used.

*name* Specify the library where the data queue is located.

Top

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## Type (TYPE)

Specifies the type of data queue to be created. A standard data queue or a distributed data management (DDM) data queue can be created.

\*STD A standard data queue is created. The MAXLEN parameter is required with the use of this value.

#### \*DDM

A DDM data queue is created. This value requires the name of the remote data queue accessed (RMTDTAQ parameter) and the name of the remote (target) system that the data queue is located on (RMTLOCNAME parameter).

Top

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## Maximum entry length (MAXLEN)

Specifies the maximum length of the entry that is sent to the data queue.

### Notes:

1. If the data queue is associated with an output queue, the maximum length value should be at least 128.
2. This parameter is valid only when TYPE(\*STD) is specified.

### 1-64512

Specify the maximum entry length. Valid values range from 1 through 64512.

Top

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## Force to auxiliary storage (FORCE)

Specifies whether the data queue is forced to auxiliary storage when entries are sent or received for this data queue.

**Note:** This parameter is valid only when TYPE(\*STD) is specified.

**\*NO** Send and receive operations are not immediately forced to auxiliary storage.

**\*YES** Send and receive operations are immediately forced to auxiliary storage. This ensures that the changes are not lost if a system failure occurs. This requires additional system overhead.

Top

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## Sequence (SEQ)

Specifies the sequence in which entries are received from the data queue.

### Notes:

1. If the data queue is associated with an output queue, the sequence value should be \*FIFO or \*LIFO."
2. This parameter is valid only when TYPE(\*STD) is specified.

**\*FIFO** Data queue entries are received in a first-in first-out sequence.

**\*LIFO** Data queue entries are received in a last-in first-out sequence.

### \*KEYED

Data queue entries are received by key. A key is a prefix added to an entry by its sender.

Top

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## Key length (KEYLEN)

Specifies the number of characters in the key.

**Note:** This parameter is valid only when SEQ(\*KEYED) and TYPE(\*STD) are specified.

1-256 Specify the key length. Valid values range from 1 through 256.

Top

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## Include sender ID (SENDERID)

Specifies a sender ID to be attached to each message sent to the Data Queue. The ID contains the job name and the sender's current user profile.

**Note:** This parameter is valid only when TYPE(\*STD) is specified.

**\*NO** Messages sent do not include the sender ID.

**\*YES** Messages sent include the sender ID.

Top

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## Queue size (SIZE)

Specifies the amount of storage allocated for the data queue. Parameter elements consist of the maximum number of entries and the initial number of entries for the data queue.

**Note:** This parameter is valid only when TYPE(\*STD) is specified.

### Element 1: Maximum number of entries

One of the following is used to specify the maximum number of entries that can be added to a data queue.

#### **\*MAX16MB**

The system will calculate the maximum number of entries that can be added to the queue and will be allowed to grow to a maximum size of approximately 16 megabytes(MB). One megabyte equals 1,048,576 bytes. This value with an initial number of entries of 16 provides compatibility with releases of the operating system earlier than Version 4 Release 5 Modification 0 (V4R5M0).

#### **\*MAX2GB**

The system will calculate the maximum number of entries that can be added to the data queue. The data queue will be allowed to grow to a maximum size of approximately 2 gigabytes (GB). One gigabyte equals 1,073,741,824 bytes.

#### *number-of-entries*

The data queue will be allowed to hold at least this number of entries. Based on the extend size used by the machine, the maximum number of data queue entries may be slightly higher than the specified value. The value specified must be greater than 0.

### Element 2: Initial number of entries

Specifies the amount of storage that will initially be allocated to the data queue. The queue will be created to hold the initial number of entries of the maximum entry length.

**16** Initially, storage is allocated to hold 16 entries of the maximum entry length.

#### *initial-number-of-entries*

Specify the value for the initial number of entries that the data queue can hold. The value must be greater than 0.

Top



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## Automatic reclaim (AUTORCL)

Specifies whether the storage allocated for the data queue is automatically reclaimed (released) when the data queue is empty.

**Note:** This parameter is valid only when TYPE(\*STD) is specified.

**\*NO** The storage allocated for the data queue is not released when the data queue is empty.

**\*YES** The storage allocated for the data queue is released when the data queue is empty. Storage for the Initial Number of Entries value will remain allocated.

Top

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## Remote data queue (RMTDTAQ)

Specifies the remote data queue on the target system. The data queue does not need to exist when the DDM data queue is created.

### Qualifier 1: Remote data queue

*name* Specify the name of the data queue that identifies the remote data queue accessed. The name cannot exceed 10 characters.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the thread is searched. If no library is specified as the current library for the thread, the QGPL library is searched.

*name* Specify the name of the library to be searched.

- If \*LIBL (the default library qualifier) is specified or assumed, the library list in the called job on the target system is searched to locate the data queue.
- If \*CURLIB is specified, the current library in the called job on the target system is searched to locate the data queue.

Top

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## Remote location (RMTLOCNAME)

Specifies the name of the remote location that is used with this object.

**Note:** Multiple DDM data queues can use the same remote location for the target system. The remote locations used must point to systems that are at a release of i5/OS that supports remote data queues.

**\*RDB** The remote location information from the relational database entry specified for the **Relational database (RDB)** parameter is used to determine the remote system.

*name* Specify the name of the remote location that is associated with the target system. The remote location, which is used in accessing the target system, does not need to exist when the DDM data queue is created but must exist when the DDM data queue is accessed.

More information on remote locations is in the APPC Programming book, SC41-5443.

Top

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## Relational database (RDB)

Specifies the relational database entry that is used to determine the remote location information for the DDM data queue.

### *communications-name*

Specify the name of the relational database entry that identifies the target system or target ASP group. The relational database name can refer to a remote system or an ASP group that is configured and available on a remote system. The relational database entry does not need to exist when the DDM data queue is created but must exist when the DDM data queue is used. This parameter is required when \*RDB is specified for the **Remote location (RMTLOCNAME)** parameter.

Top

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## APPC device description (DEV)

Specifies the name of the APPC device description on the source system that is used with this DDM data queue. The device description does not need to exist when the DDM data queue is created.

**\*LOC** The device associated with the remote location is used. If several devices are associated with the remote location, the system determines which device is used.

*name* Specify the name of a communications device associated with the remote location. If the device name is not valid for the remote location, a message is sent when the program device entry is required. More information on device names is in the APPC Programming book, SC41-5443.

Top

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## Local location (LCLLOCNAME)

Specifies the local location name.

**\*LOC** The device associated with the remote location is used. If several devices are associated with the remote location, the system determines which device is used.

### **\*NETATR**

The LCLLOCNAME value specified in the system network attributes is used.

*name* Specify the name of the local location that is associated with the remote location. The local location name is specified only if the user indicates a specific local location for the remote location. If the local location name is not valid for the remote location, an escape message is sent when the DDM data queue is accessed.

More information on local location names is in the APPC Programming book, SC41-5443.

Top

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## Mode (MODE)

Specifies the mode name that is used with the remote location name to communicate with the target system.

### **\*NETATR**

The mode name specified in the network attributes is used.

*name* Specify the name of the mode that is used to communicate with the remote system. If the mode name is not valid for any combination of remote location and local location, an escape message is sent when the DDM data queue is accessed.

More information on mode names is in the APPC Programming book, SC41-5443.

Top

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## Remote network identifier (RMTNETID)

Specifies the remote network identifier (ID) in which the remote location resides that is used to communicate with the target system.

**\*LOC** The remote network ID associated with the remote location is used. If several remote network IDs are associated with the remote location, the system determines which remote network ID is used.

**\*NETATR**

The RMTNETID value specified in the system network attributes is used.

**\*NONE**

No remote network ID is used.

*remote-network-ID*

Specify the remote network ID that is associated with the remote location. The remote network ID is specified only if the user indicates a specific remote network ID for the remote location. If the remote network ID is not valid for the remote location, an escape message is sent when the DDM data queue is accessed.

More information on remote network IDs is in the APPC Programming book, SC41-5443.

Top

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## Text 'description' (TEXT)

Specifies text that briefly describes the data queue.

**\*BLANK**

No text is specified.

*'description'*

Specify no more than 50 characters, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

- \*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.
- \*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.
- \*EXCLUDE**  
The user cannot access the object.
- name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

## Examples

### Example 1: Creating a Standard Data Queue

```
CRTDTAQ DTAQ(DEPTADTA) MAXLEN(100) AUT(*EXCLUDE)
        TEXT('Special data + files for DEPTA')
```

This command creates a data queue named DEPTADTA and puts it in the current library; the maximum length entry is 100. Because AUT(\*EXCLUDE) is specified, the data queue can be used and controlled only by the user who created the queue and by users who have been given specific authority. Users in Department A can be given authority to use this data queue by using the Grant Object Authority (GTROBJAUT) command.

### Example 2: Creating a DDM Data Queue to Access a Data Queue at Another system

```
CRTDTAQ DTAQ(SOURCE/SALES) TYPE(*DDM)
        RMTDTAQ(REMOTE/SALES) RMTLOCNAME(NEWYORK)
```

This command creates a DDM data queue named SALES and stores it in the SOURCE library on the source system. This DDM data queue uses the remote location named NEWYORK to access a remote data queue named SALES stored in the REMOTE library on a system in New York.

### Example 3: Creating a Data Queue Specifying Size Attributes and Automatic Reclaim

```
CRTDTAQ DTAQ(MYLIB/MYDTAQ) MAXLEN(80)
        SIZE(*MAX2GB 100) AUTORCL(*YES)
```

This command creates a data queue named MYDTAQ and stores it in the MYLIB library. The maximum entry length is 80 bytes and the queue entries are received in a first-in-first-out (FIFO) sequence. The data queue will initially have storage allocated to hold 100 entries. The data queue can grow to a maximum size of approximately 2 gigabytes. If all queue entries are received, storage for the data queue will be automatically reclaimed.

Top

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## Error messages

### \*ESCAPE Messages

**CPF2105**

Object &1 in &2 type \*&3 not found.

**CPF2108**

Object &1 type \*&3 not added to library &2.

**CPF2109**

NEWOBJ must be \*SAME when OBJ parameter is \*ALL or generic name.

**CPF2110**

Library &1 not found.

**CPF2113**

Cannot allocate library &1.

**CPF2116**

DATA(\*YES) specified and \*ALL or \*FILE not in OBJTYPE list.

**CPF2122**

Storage limit exceeded for user profile &1.

**CPF2123**

No objects of specified name or type exist in library &2.

**CPF2130**

&1 objects duplicated. &2 objects not duplicated.

**CPF2151**

Operation failed for &2 in &1 type \*&3.

**CPF2152**

Objects of type \*&1 cannot be created into QTEMP.

**CPF2162**

Duplication of all objects in library &1 not allowed.

**CPF2176**

Library &1 damaged.

**CPF2182**

Not authorized to library &1.

**CPF2185**

TOLIB, TOASPDEV, or NEWOBJ parameter not correct.

**CPF2186**

Object &1 cannot be created into library &2.

**CPF2283**

Authorization list &1 does not exist.

**CPF327E**

Alternative name for file &1 not allowed.

**CPF6565**

User profile storage limit exceeded.

**CPF9810**

Library &1 not found.

**CPF9820**

Not authorized to use library &1.

**CPF9827**

Object &1 cannot be created or moved into &2.

**CPF9830**

Cannot assign library &1.

**CPF9870**

Object &2 type \*&5 already exists in library &3.

Top

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## Create Duplicate Object (CRTDUPOBJ)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** Yes

Parameters  
Examples  
Error messages

The Create Duplicate Object (CRTDUPOBJ) command copies a single object or a group of objects. It does not create an exact duplicate of files. The new object must be renamed if it is created in the library that contains the original object. The newly-created object can retain the name of the original object if it is created in a library different than the one that contains the original object. You can copy a group of related objects by specifying a generic object name or by specifying \*ALL or more than one object type. When copying a group of related objects, you must specify a different library in which the new objects are created. You can specify whether data in physical files or save files is copied. You can also specify whether any constraints or triggers associated with an existing database file are to be associated with the newly-created file and whether the file level and member level identifiers of an existing database file are to be copied to the newly-created database file.

**Note:** The value of the **Create authority (CRTAUT)** parameter specified on the Create Library (CRTLIB) command for the to-library is not used for the duplicate object. The public and private authorities for the duplicate object will be the same as the original object with the following exception. If, by not duplicating an INSTEAD OF trigger, the new database file loses the insert, update, or delete capability of the old file, then the corresponding insert, update, or delete authorities on the old file will not be granted to the new file. The owner of the duplicate object is either the user profile of the user who issues the command or the group profile if the user profile of the user who issues the command is a member user profile that has specified that the group profile should be the owner.

When duplicating a file using the CRTDUPOBJ command, the format of the existing file specified for the **From object (OBJ)** parameter is shared with the newly-created file specified for the **New object (NEWOBJ)** parameter. When the maximum number (approximately 32K) of file objects that share the same format has been reached, the newly-created file will create a new format instead of sharing the FROM file's format.

**Note:** All of the files that share the same format will be considered related and will be grouped together in the same save list when a save operation is performed.

When a logical file is copied into another library, two cases determine the basing for the file:

1. If both the logical file and its based-on physical file are originally in the same library, a duplicate of the physical file must be created in the new library before a duplicate of the logical file is created. After these two duplicates are created, the new logical file is based on the new physical file.
2. If the logical file and its based-on physical file are originally in different libraries, it is not necessary to duplicate the physical file before duplicating the logical file. In this case, the duplicated logical file is based on the same physical file as was the original logical file. Unlike the first case, even if the physical file is copied into the new library before the logical file is copied, the duplicated logical file is based on the original physical file, not on the duplicated physical file.

When the CRTDUPOBJ command creates a data base file, you can use the **Duplicate constraints (CST)** parameter to specify whether or not any constraints associated with the existing file are to be associated with the newly-created file. Similarly, you can use the **Duplicate triggers (TRG)** parameter to specify whether or not any triggers associated with the existing file are to be associated with the newly-created file. Note that there are special considerations of which to be aware relating to the duplication of triggers. For example, the duplication will differ depending on whether or not the trigger program associated with

the existing file was in the same library as the existing file. You can also use the **Duplicate file identifiers (FILEID)** parameter to specify whether or not the file level and member level identifiers of the existing file will be used for the newly-created file.

**Note:** For additional information, see the Database category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

When the object being duplicated is an object type which is eligible to be journaled, there are two methods for the object to automatically start journaling after the object has been created.

1. If the target library is journaled, the journal inherit rules for the library will determine whether or not journaling is started for the object.
2. If the target library contains a data area named QDFTJRN, the object will automatically start journaling based on the contents of the QDFTJRN data area.

**Note:** The QDFTJRN data area overrides the journaling state and journal inherit rules of the target library.

**Note:** Support of the QDFTJRN data area will be discontinued in a future release.

Use the Display Library Description (DSPLIBD) command to display journal information for the library. Refer to the Start Journal Library (STRJRNLIB) command for more information about journaling a library.

**Note:** For additional information regarding journaling, see the Journal management topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

#### **Restrictions:**

1. You must have use (\*USE) and object management (\*OBJMGT) authorities for the existing object.
2. You must have use (\*USE) and add (\*ADD) authorities for the library for the new object.
3. You must have authorization list management (\*AUTLMGT) authority if the object is an authorization list.
4. You must have object operational (\*OBJOPR) authority for the Create Save File (CRTSAVF) command to create a duplicate save file. The contents of the save file are duplicated when \*YES is specified for the **Duplicate data (DATA)** parameter.
5. When an object is to be duplicated, it is created in the same auxiliary storage pool (ASP) as the to-library.
6. If \*YES is specified for the **Duplicate data (DATA)** parameter when the CRTDUPOBJ command is used to create a copy of a file, the new duplicate file object is seized (similar to an \*EXCL lock with no timeout) for the duration of the data copy making access impossible. An attempt to use a function that refers to the new duplicate file object while the data copy is in progress results in a lock up for that work station until the data copy is completed. The following are examples of functions that should not be used on the new duplicate file object until the data copy is completed:
  - WRKACTJOB (Option 11-Locks; Option 8-WRKOBJLCK)
  - DSPDBR
  - DSPFD
  - DSPFFD
  - DSPJOB (Option 12-Locks; F10-Job record locks; Option 14-Open files)
  - DSPLIB (The library containing the new duplicate file)
  - DSPOBJD
  - WRKOBJLCK
  - DSPRCDLCK
  - Any other function which refers to the new duplicate file
7. When duplicating a database file or a save file and storage for the from-library is allocated from a primary or secondary auxiliary storage pool (ASP), storage for the to-library must either be allocated



from an ASP in the same ASP group as the storage for the from-library or be allocated from the system ASP (ASP 1) or a basic user ASP (ASPs 2-32). Duplicating a database file or a save file from one ASP group to another ASP group is not supported.

8. When creating a duplicate object of type \*GSS, \*FNTRSC, \*FORMDF, \*OVL, \*CSI, \*PAGDFN, or \*PAGSEG, the name of the new object cannot exceed 8 characters in length.
9. The user space (\*USRSPC) and user index (\*USRIDX) user domain objects can be copied only into libraries that are permitted in the system value QALWUSRDMN (allow user domain objects in library). However, if the user object was created as a system domain object, it is not restricted.

Top

## Parameters

Keyword	Description	Choices	Notes
OBJ	From object	Generic name, name, *ALL	Required, Positional 1
FROMLIB	From library	Name, *LIBL, *CURLIB	Required, Positional 2
OBJTYPE	Object type	Single values: *ALL Other values (up to 57 repetitions): *ALRTBL, *AUTL, *BNDDIR, *CHTFMT, *CLD, *CLS, *CMD, *CRQD, *CSI, *CSPMAP, *CSPTBL, *DTAARA, *FCT, *FILE, *FNTRSC, *FNTTBL, *FORMDF, *FTR, *GSS, *IGCDCT, *IGCSRT, *JOB, *JOBQ, *LOCALE, *MEDDFN, *MENU, *MGTCOL, *MODULE, *MSGF, *MSGQ, *M36CFG, *NODGRP, *NODL, *OUTQ, *OVL, *PAGDFN, *PAGSEG, *PDFMAP, *PDG, *PGM, *PNLGRP, *PRDAVL, *PRDDFN, *PRDLOD, *PSFCFG, *QMFORM, *QMORY, *QRYDFN, *SBSD, *SCHIDX, *SRVPGM, *SSND, *TBL, *USRIDX, *USRSPC, *VLDL, *WSCST	Required, Positional 3
TOLIB	To library	Name, *FROMLIB, *SAME, *CURLIB	Optional, Positional 4
NEWOBJ	New object	Name, *OBJ, *SAME	Optional, Positional 5
ASPDEV	From ASP device	Name, *, *CURASPGRP, *SYSBAS	Optional
TOASPDEV	To ASP device	Name, *ASPDEV, *, *CURASPGRP, *SYSBAS	Optional
DATA	Duplicate data	*NO, *YES	Optional
CST	Duplicate constraints	*YES, *NO	Optional
TRG	Duplicate triggers	*YES, *NO	Optional
FILEID	Duplicate file identifiers	*NO, *YES	Optional

Top

## From object (OBJ)

Specifies one or more objects to be duplicated.

This is a required parameter.

**\*ALL** All the objects in the specified library for which you have authority and of the object type specified for the **Object type (OBJTYPE)** parameter are duplicated.

### *generic-name*

Specify a group of objects in the specified library to be duplicated. A generic object name is specified as a character string that contains one or more characters followed by an asterisk (\*); for

example, ABC\*. A generic name specifies all objects that begin with the same prefix as the generic object name for which you have the proper authority.

*name* Specify the name of the specific object to be duplicated.

Top

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## From library (FROMLIB)

Specifies the library that contains the objects to be duplicated.

This is a required parameter.

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**Note:** \*LIBL can only be specified for a specific object and a single, specific object type.

**\*CURLIB**

The current library for the thread is searched to find the objects to be duplicated. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the name of the library that is searched to find the objects to be duplicated.

Top

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## Object type (OBJTYPE)

Specifies the type of the object to be duplicated. This parameter can be specified as a single value or as a list of one or more object types.

To see a complete list of object types when prompting this command, position the cursor on the field for this parameter and press F4 (Prompt). For a description of the object types, see "Object types" in the CL topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

This is a required parameter.

### Single values

**\*ALL** All object types that have the specified name in the specified library for which you have authority are duplicated. If \*ALL is also specified for the **From object (OBJ)** parameter, all the objects in the specified library for which you have authority and that are of the types that can be duplicated are duplicated.

### Other values

*object-type*

Specify one or more values for the types of object that are to be duplicated.

Top

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## To library (TOLIB)

Specifies the library in which the duplicate object is to be created.

**Note:** If the library is in an auxiliary storage pool (ASP), the object to be duplicated must be a valid object type that can reside in an ASP. If this object type is not a valid type that can reside in an ASP, an error message is sent.

### **\*FROMLIB**

The library containing the new object will have the same name as the library containing the original object. Note that this is not necessarily the same library as the library containing the original object. If the **From ASP device (ASPDEV)** parameter and the **To ASP device (TOASPDEV)** parameter describe the same auxiliary storage pool (ASP) device, it is the same library. If it is the same library, a name different from the name of the original object must be assigned to the new object with the **New object (NEWOBJ)** parameter. If the ASPDEV parameter and the TOASPDEV parameter describe different ASP devices, it is a different library (with the same library name) on the different ASP device.

### **\*SAME**

See \*FROMLIB above. \*SAME and \*FROMLIB have the same meaning.

### **\*CURLIB**

The current library for the thread will contain the new object. If no library is specified as the current library for the thread, the QGPL library is used. If \*CURLIB is specified for this parameter, either the **To ASP device (TOASPDEV)** parameter must be \*, or the TOASPDEV parameter must be \*ASPDEV and the **From ASP device (ASPDEV)** parameter must be \*.

*name* Specify the name of the library to contain the new object.

Top

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## **New object (NEWOBJ)**

Specifies name of the new object. A name must be specified here if \*SAME or \*FROMLIB is specified for the **To library (TOLIB)** parameter and the same auxiliary storage pool device is specified for both the **From ASP device (ASPDEV)** parameter and the **To ASP device (TOASPDEV)** parameter. The names of members in a database file to be duplicated remain the same in the new file.

**\*OBJ** The new object has the same name as the original object. If this is specified, the new object and original object must reside in different libraries.

### **\*SAME**

See \*OBJ above. \*SAME and \*OBJ have the same meaning.

*name* Specify the name of the new object.

Top

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## **From ASP device (ASPDEV)**

Specifies the auxiliary storage pool (ASP) device name where storage is allocated for the library containing the object to be duplicated (the **From library (FROMLIB)** parameter). If the library is in an ASP that is not part of the thread's library name space, this parameter must be specified to ensure the correct object is duplicated. If this parameter is used when \*LIBL or \*CURLIB is specified for the FROMLIB parameter, \* is the only valid value.

\*  
- The ASPs that are currently part of the thread's library name space will be searched to find the library. This includes the system ASP (ASP 1), all defined basic user ASPs (ASPs 2-32), and, if the thread has an ASP group, the primary and secondary ASPs in the thread's ASP group.

### **\*CURASGRP**

If the thread has an ASP group, the primary and secondary ASPs in the thread's ASP group will be searched to find the library. The system ASP (ASP 1) and defined basic user ASPs (ASPs 2-32) will not be searched. If no ASP group is associated with the thread an error will be issued.

### **\*SYSBAS**

The system ASP (ASP 1) and all defined basic user ASPs (ASP's 2-32) will be searched to find the library. No primary or secondary ASPs will be searched, even if the thread has an ASP group.

*name* Specify the name of the primary or secondary ASP device to be searched to find the library. The primary or secondary ASP must have been activated (by varying on the ASP device) and have a status of 'Available'. The system ASP (ASP 1) and defined basic user ASPs (ASP's 2-32) will not be searched.

**Note:** To specify a specific auxiliary storage pool (ASP) device name, you must have use (\*USE) authority for each ASP device in the ASP group.

Top

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## **To ASP device (TOASPDEV)**

Specifies the auxiliary storage pool (ASP) device name where storage is allocated for the library to contain the new object (the **To library (TOLIB)** parameter). If the library is in an ASP that is not part of the thread's library name space, this parameter must be specified to ensure the object is duplicated into the correct library. If this parameter is used when \*CURLIB is specified for the TOLIB parameter, either TOASPDEV(\*) must be specified or TOASPDEV(\*ASPDEV) must be specified and the **From ASP device (ASPDEV)** parameter must be \*.

### **\*ASPDEV**

The ASP device specified for the ASPDEV parameter will be searched to find the library.

\* The ASPs that are currently part of the thread's library name space will be searched to find the library. This includes the system ASP (ASP 1), all defined basic user ASPs (ASP's 2-32), and, if the thread has an ASP group, the primary and secondary ASPs in the thread's ASP group.

### **\*CURASPGRP**

If the thread has an ASP group, the primary and secondary ASPs in the thread's ASP group will be searched to find the library. The system ASP (ASP 1) and defined basic user ASPs (ASP's 2-32) will not be searched. If no ASP group is associated with the thread an error will be issued.

### **\*SYSBAS**

The system ASP (ASP 1) and all defined basic user ASPs (ASP's 2-32) will be searched to find the library. No primary or secondary ASPs will be searched, even if the thread has an ASP group.

*name* The name of the primary or secondary ASP device to be searched to find the library. The primary or secondary ASP must have been activated (by varying on the ASP device) and have a status of 'Available'. The system ASP (ASP 1) and defined basic user ASPs (ASP's 2-32) will not be searched.

**Note:** To specify a specific auxiliary storage pool (ASP) device name, you must have use (\*USE) authority for each ASP device in the ASP group.

Top

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## **Duplicate data (DATA)**

Specifies whether the data records in database physical files or save files are copied to the new object. Members of database physical files are copied whether or not the data contained in them is copied.

**\*NO** The data records in the members of database physical files or save files are not copied to the new object.

**\*YES** The data records in the members of database physical files or save files are copied to the new object.

#### NOTES:

1. A file cannot be duplicated while it is in use for update by another job.
2. The relative record numbers in the new file are the same as those in the original file.

Top

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## Duplicate constraints (CST)

Specifies whether any constraints associated with existing database physical files are copied to the newly-created files. The specified value is not used for objects which are not database physical files.

**\*YES** The constraints associated with an existing database physical file are copied to the newly-created file.

**\*NO** The constraints associated with an existing database physical file are not copied to the newly-created file.

Top

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## Duplicate triggers (TRG)

Specifies whether any triggers associated with existing database files are copied to the newly-created files. The specified value is not used for objects which are not database files.

**Note:** There are special considerations of which to be aware relating to the duplication of triggers. For example, the duplication will differ depending on whether or not the trigger program associated with the existing file was in the same library as the existing file. For additional information, see the Database category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

**\*YES** The triggers associated with an existing database file are copied to the newly-created file.

**\*NO** The triggers associated with an existing database file are not copied to the newly-created file.

Top

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## Duplicate file identifiers (FILEID)

Specifies whether the file level and member level identifiers of the existing database file will be used for the newly-created file. The specified value is not used for objects which are not database files.

**\*NO** The file level and member level identifiers of the existing database file will not be used for the newly-created file. The file level and member level identifiers for the newly-created file will be generated by the system; for example, 1070224092922.

**\*YES** The file level and member level identifiers of the existing database file will be used for the newly-created file. Having two database files with the same file level and member level identifiers can impact database operations. This value should only be used when an exact duplicate database file is expected.

Top

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## Examples

**Example 1: Duplicating a Database File Including the Data Records, Constraints, and Triggers**

```
CRTDUPOBJ OBJ(FILEA) FROMLIB(LIB1) OBJTYPE(*FILE)
          TOLIB(LIB2) DATA(*YES)
```

The file named FILEA in library LIB1 is duplicated in library LIB2. Authorities granted for FILEA in library LIB1 are granted to FILEA created in library LIB2. The data records, constraints, and triggers associated with FILEA in library LIB1 are copied to FILEA created in library LIB2. New file level and member level identifiers will be generated for FILEA created in library LIB2. This means that the file level and member level identifiers for FILEA in library LIB2 will not be the same as the file level and member level identifiers for FILEA in library LIB1.

### **Example 2: Duplicating a Database File Without the Data Records, Constraints, and Triggers and Keeping the Same File Level and Member Level Identifiers**

```
CRTDUPOBJ OBJ(FILEB) FROMLIB(LIB3) OBJTYPE(*FILE) NEWOBJ(FILEDUP)
          DATA(*NO) CST(*NO) TRG(*NO) FILEID(*YES)
```

The file named FILEB in library LIB3 is duplicated in library LIB3 as FILEDUP. The data records, constraints, and triggers associated with FILEB in library LIB3 are not copied to FILEDUP created in library LIB3. The file level and member level identifiers for FILEDUP created in library LIB3 will be the same as the file level and member level identifiers for FILEB in library LIB3. Authorities granted for FILEB are granted to the new FILEDUP created in library LIB3 with the following exception. If, by not duplicating an INSTEAD OF trigger, the new database file FILEDUP loses the insert, update, or delete capability of the old database file FILEB, then the corresponding insert, update, or delete authorities on the old database file FILEB will not be granted to the new database file FILEDUP.

Top

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## **Error messages**

### \*ESCAPE Messages

#### **CPFB8ED**

Device description &1 not correct for operation.

#### **CPF2105**

Object &1 in &2 type \*&3 not found.

#### **CPF2109**

NEWOBJ must be \*SAME when OBJ parameter is \*ALL or generic name.

#### **CPF2110**

Library &1 not found.

#### **CPF2113**

Cannot allocate library &1.

#### **CPF2116**

DATA(\*YES) specified and \*ALL or \*FILE not in OBJTYPE list.

#### **CPF2122**

Storage limit exceeded for user profile &1.

#### **CPF2123**

No objects of specified name or type exist in library &2.

#### **CPF2130**

&1 objects duplicated. &2 objects not duplicated.

**CPF2151**  
Operation failed for &2 in &1 type \*&3.

**CPF2152**  
Objects of type \*&1 cannot be created into QTEMP.

**CPF2155**  
\*LIBL cannot be specified for FROMLIB.

**CPF216C**  
TOASPDEV value not allowed with TOLIB(\*CURLIB).

**CPF216D**  
TOLIB, NEWOBJ, or TOASPDEV parameter not correct.

**CPF2160**  
Object type \*&1 not eligible for requested function.

**CPF2162**  
Duplication of all objects in library &1 not allowed.

**CPF2173**  
Value for ASPDEV not valid with special value for library.

**CPF2176**  
Library &1 damaged.

**CPF218C**  
&1 not a primary or secondary ASP.

**CPF2182**  
Not authorized to library &1.

**CPF2185**  
TOLIB, TOASPDEV, or NEWOBJ parameter not correct.

**CPF2186**  
Object &1 cannot be created into library &2.

**CPF9806**  
Cannot perform function for object &2 in library &3.

**CPF9814**  
Device &1 not found.

**CPF9825**  
Not authorized to device &1.

**CPF9827**  
Object &1 cannot be created or moved into &2.

**CPF9833**  
\*CURASPGRP or \*ASPGRPPRI specified and thread has no ASP group.

Top





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## Create Edit Description (CRTEDTD)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Edit Description (CRTEDTD) command defines an edit mask for the specified edit description and stores it in the QSYS library. As many as five edit descriptions can be defined by the user. A version of each of these edit descriptions is supplied in the QSYS library. More information about the IBM-supplied versions is in the Application Display Programming book, SC41-5715. To create a new version, the IBM-supplied version must first be deleted by the Delete Edit Description (DLTEDTD) command.

Edit descriptions can be used in data description specifications and high-level language programs to edit numeric fields.

Top

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### Parameters

Keyword	Description	Choices	Notes
EDTD	Edit description	5, 6, 7, 8, 9	Required, Positional 1
INTMASK	Integer mask	Character value, *NONE	Optional
DECPNT	Decimal point character	Character value, '.', *NONE	Optional
FRACMASK	Fraction mask	Character value, *NONE	Optional
FILLCHAR	Fill character	Character value, *BLANK	Optional
CURSYM	Currency symbol	Character value, *NONE	Optional
ZEROBAL	Edit zero values	*YES, *NO	Optional
NEGSTS	Negative status characters	Character value, *NONE	Optional
POSSTS	Positive status characters	Character value, *NONE	Optional
LFTCNS	Left constant characters	Character value, *NONE	Optional
RGTCNS	Right constant characters	Character value, *NONE	Optional
TEXT	Text 'description'	Character value, *BLANK	Optional
AUT	Authority	Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE	Optional

Top

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### Edit description (EDTD)

Specifies a single-digit code (5, 6, 7, 8, or 9) that identifies the user-defined edit description being created. The actual name of the created object (which is stored in the QSYS library) is **QEDIT $n$** , where  $n$  is the single-digit edit code specified in this parameter.

This is a required parameter.

Top

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## Integer mask (INTMASK)

Specifies a character string (mask) that describes the editing of the integer portion of a decimal field. Characters other than a blank, a zero, or an ampersand (&) are handled as constants in the editing process. Blank, zero, and ampersand have the following meanings:

- Blank: Each blank is replaced with a fill character or with a digit from the number being edited once zero suppression ends.
- Zero (0): The farthest left zero is a digit replacement character and also ends zero suppression. All other zeros in the integer mask are handled as constants.
- Ampersand (&): Blank substitution.

**Note:** You cannot specify both INTMASK(\*NONE) and FRACMASK(\*NONE) on the CRTEDTD command. Instead, specify blanks for INTMASK and FRACMASK, and specify GENLVL(30) on the Create Printer File (CRTPRTF) or Create Display File (CRTDSPF) command, which allows the file to create, but ignores the edit code keyword.

The possible values are:

### \*NONE

No editing mask is used on the integer portion of decimal fields.

### 'integer-mask'

Specify the character string that is used as the editing mask for the integer portion of a decimal field. A maximum of 31 characters, enclosed in apostrophes, can be used in the integer mask.

Top

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## Decimal point character (DECPNT)

Specifies, for decimal fields, a single character used as a decimal point to separate the integer (INTMASK) and fraction (FRACMASK) portions of the edited result. If the field has no decimal places, this character is not used and is not considered in the width of the edited results.

**Note:** If the separator character specified for DECPNT is also used in the INTMASK parameter, it has no special meaning in the integer mask; it is handled only as a constant or as a digit replacement character in the integer mask.

The possible values are:

### '.' (period)

The period (or decimal point) is the separator character. It must be enclosed in apostrophes.

### \*NONE

No separator character is specified; a decimal point is not needed in the edited result.

### 'separator-character'

Specify the separator character, such as the comma (,), that is used as a decimal point. Any alphanumeric or special character can be used, but a special character must be enclosed in apostrophes.

Top

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## Fraction mask (FRACMASK)

Specifies a character string (mask) that describes the editing of the fraction portion of a decimal field (to the right of the decimal point). The characters have the same meaning as described for the **Integer mask** prompt (INTMASK parameter) except that all zeros are handled as constants and blanks are not replaced with a fill character.

The possible values are:

**\*NONE**

No editing mask is used on the fraction portion of decimal fields.

*'fraction-mask'*

Specify the character string that is used as the editing mask for the fraction portion of a decimal field. A maximum of 31 characters, enclosed in apostrophes, can be used in the fraction mask.

Top

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## Fill character (FILLCHAR)

Specifies the character that is used in each position of a result that is zero suppressed. The specified character replaces all leading zeros that are to the left of the first significant digit in the integer mask (or a forced zero).

The possible values are:

**\*BLANK**

The fill character is a blank.

*'fill-character'*

Specify the character that is used as the fill character. Any alphanumeric or special character can be used, but a special character must be enclosed in apostrophes.

Top

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## Currency symbol (CURSYM)

Specifies the character string that is used as the floating currency symbol. The character string specified appears immediately to the left of the first significant digit (or constant). If the first significant digit is a zero, occurring in the position that ended zero suppression, the character string ends in the position occupied by that zero.

The possible values are:

**\*NONE**

No floating currency symbol is specified; none is needed in the edited result.

*'floating-currency-symbol'*

Specify the character string that is used as the floating currency symbol for monetary amount fields. A maximum of 15 alphanumeric and special characters, enclosed in apostrophes, can be specified.

Top

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## Edit zero values (ZEROBAL)

Specifies the editing action for zero values.

The possible values are:

- \*YES** The normal editing rules are followed. (For information on Editing rules, refer to the description of the Create Edit Description (CRTEDTD) command in the CL Reference manual.
- \*NO** If the field being edited has a value of zero, the entire field (integer, decimal point, or fraction) is replaced by the fill character, including constants in the edit mask.

Top

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## Negative status characters (NEGSTS)

Specifies the character string that immediately follows the body of the edited result if the field is negative. If the field is positive, blanks are substituted for the length of the string, unless a value is also specified for the **Positive status characters** prompt (POSSTS parameter).

The possible values are:

- \*NONE** No character string is specified; blanks are used to the right of the field in the edited result.

*'negative-status-character-string'*

Specify the character string that immediately follows the edited field when the field is negative in value. A maximum of 31 characters, enclosed in apostrophes, can be specified as the negative status character string.

Top

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## Positive status characters (POSSTS)

Specifies the character string that immediately follows the body of the edited result if the field is positive or zero. If the field is negative, blanks are substituted for the length of the string unless a value is also specified for the **Negative status characters** prompt (NEGSTS parameter).

The possible values are:

- \*NONE** No character string is specified; blanks are used to the right of the field in the edited result.

*'positive-status-character-string'*

Specify the character string that immediately follows the edited field when the field is positive in value. A maximum of 31 characters, enclosed in apostrophes, can be specified as the positive status character string.

Top

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## Left constant characters (LFTCNS)

Specifies the character string constant that always appears as the farthest left portion of the edited result.

The possible values are:

- \*NONE** No constant appears on the left side of edited fields.

### *'left-constant'*

Specify the character string that always appears on the left side of an edited field. A maximum of 31 characters, enclosed in apostrophes, can be specified.

Top

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## Right constant characters (RGTCNS)

Specifies the character string constant that always appears as the farthest right portion of the edited result.

The possible values are:

### \*NONE

No constant appears on the right side of edited fields.

### *'right-constant'*

Specify the character string that always appears on the right side of an edited field. A maximum of 31 characters, enclosed in apostrophes, can be specified.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

The possible values are:

### \*BLANK

No text is specified.

### *'description'*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

The possible values are:

### \*LIBCRTAUT

The authority for the object is the same as the create authority for QSYS. The create authority for QSYS can be displayed by using the Display Library Description (DSPLIBD) command. If the create authority is changed with the Change Library (CHGLIB) command, the new authority will not affect existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

\*ALL The user can perform all operations except those limited to the owner or controlled by

authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**  
The user cannot access the object.

#### *authorization-list-name*

Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

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## Examples

The examples assume the following:

### **FIELDA**

Six digits (four integer and two decimal positions) with a value of 001234

### **FIELDB**

Same as FIELDA but with a negative value (-001234)

### **FIELD C**

Same as FIELDA but with a zero value (000000)

**DATE** Six digits (0 decimal positions) with a value of 091878

The character **b** is used to represent blank spaces.

### **Example 1: Create Edit Description 5**

```
CRTEDTD  EDTD(5) INTMASK(' , , 0') FRACMASK(' ')
          NEGSTS('DB ') POSSTS('CREDIT')
          LFTCNS('$') RGT CNS(' **')
```

### **FIELDA**

Logical mask is '\$b,bb0.bbDBbbbb b\*\*' for a negative value or '\$b,bb0.bb CREDIT b\*\*' for a positive value

Edited result is \$bbb12.34CREDITb\*\*

### **FIELD B**

Same logical mask

Edited result is \$bbb12.34DBbbbbbb\*\*

### **FIELD C**

Same logical mask

Edited result is \$bbbbb.00CREDITb\*\* or, if ZEROBAL(\*NO) had been specified, \$bbbbbCREDITb\*\*

### **Example 2: Create Edit Description 6**

```
CRTEDTD  EDTD(6) INTMASK(' . 0 ') DECPNT(', ')
          FRACMASK(' ') CURSYM('DM') NEGSTS('- **')
```

**FIELDA**

Logical mask is 'bbb.b0b,bb-b\*\*' with floating DM

Edited result is bbbDM12,34bbbb

**FIELDB**

Same logical mask

Edited result is bbbDM12,34-b\*\*

**FIELD C**

Same logical mask

Edited result is bbbbDM0,00bbbb or, if ZEROBAL(\*NO) had been specified, bbbbbbbbbbbbb

**Example 3: Create Edit Description 7**

```
CRTEDTD  EDTD(7) INTMASK('0 MONTH DAY YEAR')
          LFTCNS('DATE IS ')
```

**DATE** Logical mask is equal to the INTMASK parameter value

Edited result is DATEbISbb9MONTH18DAYb78YEAR

**Example 4: Create Edit Description 9**

```
CRTEDTD  EDTD(9) INTMASK(' , 0') DECPNT('.')
          FRACMASK(' ') FILLCHAR('*') NEGSTS(' ERROR **')
```

**FIELDA**

Logical mask is 'b,bb0.bbbbbbbbbbb' or 'b,bb0.bbbERRORb\*\*' (Both use the \* as the fill character)

Edited result is \*\*\*12.34bbbbbbbbbb

**FIELDB**

Same logical mask

Edited result is \*\*\*12.34bERRORb\*\*

**FIELD C**

Same logical mask

Edited result is \*\*\*\*\*.00bbbbbbbbbb or, if ZEROBAL(\*NO) had been specified, \*\*\*\*\*bbbbbbbbbb

Top

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**Error messages****\*ESCAPE Messages****CPF9805**

Object &2 in library &3 destroyed.

Top





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## Create Folder (CRTFLR)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Folder (CRTFLR) command allows you to create a folder. Folders are used to organize documents and other folders.

### Restrictions:

If a folder is created into an existing folder, change (\*CHANGE) authority to the existing folder is required.

Top

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## Parameters

Keyword	Description	Choices	Notes
FLR	Folder	<i>Character value</i>	Required, Positional 1
INFLR	In folder	<i>Character value, *NONE</i>	Optional, Positional 2
TEXT	Text 'description'	<i>Character value, *FLR</i>	Optional
AUT	Authority	<i>Name, *INFLR, *EXCLUDE, *ALL, *CHANGE, *USE</i>	Optional
ASP	Auxiliary storage pool ID	1-32, <i>*INFLR</i>	Optional
CMDCHRID	Command character identifier	Single values: <i>*SYSVAL, *DEVVD</i> Other values: <i>Element list</i>	Optional
	Element 1: Graphic character set	<i>Integer</i>	
	Element 2: Code page	<i>Integer</i>	

Top

---

## Folder (FLR)

Specifies the name of the folder being created.

This is a required parameter.

**name** Specify the name (ranging from 1 through 12 characters, including an optional extension) of the folder being created. If no extension is included, a document or folder name can have a maximum of 8 characters. If an extension is included, the extension must start with a period and can have up to 3 additional characters. An extension in the folder name allows you to identify the folder by using specific information that can help you do a selective listing of folders on your system.

Top

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## In folder (INFLR)

Specifies the name of the folder that contains the folder being created.

### \*NONE

The folder is not created within another folder; it is considered a first-level folder.

*name* Specify the name of the folder (ranging from 1 through 63 characters) that contains the newly created folder.

Because folders may reside within other folders, and because any given folder name is only unique within its containing folder, you may be required to link several folder names together to identify a folder. This is commonly called the path to an object within a folder. The folder path is:

- One or more folder names. If more than one folder name, each is separated by a forward slash (/). An example of two folder names is FOLDERA/FOLDERB.
- Not to exceed 63 characters in total length.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

\*FLR The text is the folder name specified on the **Folder (FLR)** parameter.

### *character*

Specify up to 44 characters enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*INFLR

If the folder is a first-level folder, the authority is \*EXCLUDE. If the folder is not a first-level folder, the authority is copied from the folder specified on the **In folder (INFLR)** parameter.

### \*EXCLUDE

The user cannot access the object.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

*name* Specify the name of the authorization list. The public authority is set to \*AUTL, and the authorization list is attached to the created folder.

Top

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## Auxiliary storage pool ID (ASP)

Specifies the ID of the auxiliary storage pool (ASP) in which to create the folder. This parameter can be specified only when INFLR(\*NONE) is specified (when you are creating a first level folder).

### \*INFLR

The folder is created in the ASP of its parent folder. When INFLR(\*NONE) is specified, this is the system ASP.

**1-32** Specify the identifier (ID) of the ASP in which to create the folder. The value must designate an ASP that is configured on the system. For information on configuring an ASP, see the Recovering your system book, SC41-5304.

Top

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## Command character identifier (CMDCHRID)

Specifies the character identifier (graphic character set and code page) for the data being entered as command parameter values (applies to **Text 'description' (TEXT)** parameter). The character identifier is related to the display device that was used to enter the command.

### Single values

#### \*SYSVAL

The system determines the graphic character set and code page values for the command parameters from the QCHRID system value.

#### \*DEVDD

The system determines the graphic character set and code page values from the display device description where this command was entered. This option is valid only when entered from an interactive job. If this option is specified in a batch job, an error occurs.

### Element 1: Graphic character set

**1-32767**

Specify the graphic character set to use.

### Element 2: Code page

**1-32767**

Specify the code page to use.

Top

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## Examples

### Example 1: Create a Folder in Another Folder

```
CRTFLR  FLR(QTR1)  INFLR('PAYROLL/1987')  AUT(*CHANGE)
          TEXT('first quarter payroll')
```

This command creates the folder QTR1 in folder PAYROLL/1987. The public is granted \*CHANGE authority to the folder, which allows adding a document to the folder, changing the folder description, or showing the contents of the folder. Folder 1987 is in the PAYROLL folder, which is a first-level folder.

### Example 2: Create a Folder in an ASP

```
CRTFLR  FLR(MANFCTNG)  INFLR(*NONE)  ASP(2)  AUT(*USE)
        TEXT('Manufacturing')
```

This command creates the folder MANFCTNG as a first level folder in user auxiliary storage pool (ASP) 2, which has been previously configured on the system. The public is granted \*USE authority to the folder, which allows you to show the description or the contents of the folder.

[Top](#)

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## Error messages

### \*ESCAPE Messages

#### CPF8A18

Folder &1 not created.

[Top](#)

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## Create Firmware Product (CRTFMWPRD)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Create Firmware Product (CRTFMWPRD) command creates a licensed program with which to install program temporary fixes (PTFs) for the server firmware. The CRTFMWPRD command is used as part of the central site distribution process to include server firmware updates for hardware platforms other than the system used to create the distribution media. After installing PTFs for the created firmware product, the product should be selected when creating the distribution media to be used when installing on the target system(s). Refer to the i5/OS Information Center for more information on distributing software using the central site distribution process.

If the product identifier is not a valid firmware product, or if the release is not valid for the firmware product, the firmware product will not contain any program temporary fixes (PTFs). For assistance in determining the correct product identifier and release, see the Fixes and upgrades topic (Customer service, support, and troubleshooting > Fixes and upgrades) in the IBM Systems Hardware Information Center (<http://publib.boulder.ibm.com/infocenter/eserver/v1r3s/index.jsp>).

If the server firmware product is no longer needed for distribution, the Delete License Program (DLTLICPGM) command can be used to delete the firmware product. The DLTLICPGM command does not delete the PTF save files. Use the Delete Program Temporary Fix (DLTPTF) command to delete the PTF save files.

**Restrictions:** This command is shipped with public \*EXCLUDE authority.

Top

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### Parameters

Keyword	Description	Choices	Notes
PRDID	Product identifier	Character value	Required, Positional 1
RLS	Release	Character value, 'VxRyMz'	Required, Positional 2

Top

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### Product identifier (PRDID)

Specifies the identifier of the firmware product being created.

#### *product-identifier*

Specify a product identifier. The identifier must be seven characters in length with the format 57339xx, where x is any numeric character 0 through 9.

Top

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## Release (RLS)

Specifies the release level of the firmware product to be created.

### *release-level*

Specify the release level in VxRyMz format where Vx is the version number, Ry is the release number, and Mz is the modification number. The variables x and y can be a number from 0 through 9, and variable z can be a number from 0 through 9, or a letter from A through Z.

Top

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## Examples

```
CRTFMWPRD PRDID(5733906) RLS(V1R1M0)
```

This command creates a firmware product with identifier 5733906 and release level V1R1M0.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF0C0E

Firmware product &1 not created.

Top

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## Create Font Resource (CRTFNTRSC)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Font Resources (CRTFNTRSC) command creates a font resource object from a physical file. The physical file contains the font resource information. The font resource information, can, for example, come from an S/370 host system and be in the Systems Application Architecture\* (SAA) format. Depending on the type of information processed by the CRTFNTRSC command, the results are either a font character set, a code page, or a coded font.

Top

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### Parameters

Keyword	Description	Choices	Notes
FNTRSC	Font resource	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Font resource	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
FILE	File	<i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
MBR	Member	<i>Name, *FNTRSC</i>	Optional, Positional 3
FNTCAPTURE	Font capture	<i>*FILE, *NO, *YES</i>	Optional
TEXT	Text 'description'	<i>Character value, *MBRTXT, *BLANK</i>	Optional
REPLACE	Replace font resource	<i>*YES, *NO</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

---

### Font resource (FNTRSC)

Specifies the font resource being created.

This is a required parameter.

#### Qualifier 1: Font resource

*name* Specify the name of the font resource.

#### Qualifier 2: Library

##### \*CURLIB

The current library for the job is used to store the font resource. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where you want to store the font resource.

Top

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## Source file (FILE)

Specifies the file containing the font resource sent to this system.

This is a required parameter.

### Qualifier 1: Font resource

*name* Specify the name of the file to be used.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the job is used to locate the file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where the file name is located.

Top

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## Source file member (MBR)

Specifies the file member containing the font resource records.

### **\*FNTRSC**

The name of the file member is specified in the **Font resource (FNTRSC)** parameter of this command.

*name* Specify the name of the member in the file specified by the **Source file (FILE)** parameter.

Top

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## Font capture (FNTCAPTURE)

Specifies whether the font character set or code page is to be marked as eligible for font capturing. Fonts and code pages that are marked with FNTCAPTURE(\*YES) are eligible to be captured after downloading on printers that support font capturing. This allows IPDS printers that support font capturing to dynamically capture or cache a host downloaded font which has been marked with font capture \*YES. The captured font then appears to PSF like a printer resident font and remains in the printer even after it has been powered off and then on again. Printing performance is improved by eliminating subsequent font downloads to the printer. Caution must be used when marking security sensitive fonts as FNTCAPTURE(\*YES). There exists a possibility that someone could access the captured font in the printer from another print job on the same system or another print job on a different system if the printer is LAN attached. To use a host font referenced in a print job, you must have authority to the font object and its library regardless if it has been captured in the printer or not. In addition to marking the font character set and code page, you must also activate font capturing on the printer you are using. To activate font capturing on an IPDS printer, you must specify FNTCAPTURE(\*YES) on the CRTPSFCFG or CHGPSFCFG command.

### Notes:

- Font character set and code page pairs that are marked as eligible to be captured will be downloaded to printers that do not support font capturing.
- Marking coded fonts is not supported. No change will take effect when attempting to mark a coded font.



- \*FILE** The font capture information stored in the font source is used to mark the font. If no information is found, then \*NO is assumed.
- \*YES** The font character set or code page is eligible to be captured after downloading to the printer. If the printer does not support font capturing, this information is ignored and the font is downloaded.
- \*NO** The font character set or code page is not eligible for font capturing. It will also be downloaded to the printer.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### **\*MBRTXT**

The text is taken from the file member being used to create the font resource. You can add or change text for a database source member by using the Source Entry Utility (STRSEU) command, or by using either the Add Physical File Member (ADDPFM) command or the Change Physical File Member (CHGPFM) command. If the file is an inline file or a device file, the text is blank.

### **\*BLANK**

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Replace font resource (REPLACE)

Specifies whether an existing font resource with the same name as the one being created is replaced.

**\*YES** The existing font resource is replaced.

**\*NO** If a font resource with same name exists on the system, the create operation fails. The existing font resource is not replaced.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### **\*LIBCRTAUT**

The system determines the authority for the object by using the value specified on the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the **Create authority (CRTAUT)** parameter is changed, the new value will not affect any existing objects.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

- \*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.
- \*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.
- \*EXCLUDE**  
The user cannot access the object.
- name** Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTFNTSRC  FNTSRC(MYLIB/GOTHIC12) FILE(*LIBL/FONTRSCS)
           MBR(*FNTSRC) AUT(*USE)
           TEXT('Gothic Font 12 Pitch')
```

This command creates font resource GOTHIC12 in MYLIB. Source file FONTRSCS, in the user's library list, with member GOTHIC12 is used as input. Specifying \*USE for the AUT parameter allows other users to access GOTHIC12, but not to change it. The text describes the font resource.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2283

Authorization list &1 does not exist.

#### CPF8056

File &1 in &2 not a physical file.

#### CPF88C1

Printer resource type &1 &2 was not created in library &3.

#### CPF9809

Library &1 cannot be accessed.

#### CPF9810

Library &1 not found.

#### CPF9812

File &1 in library &2 not found.

#### CPF9822

Not authorized to file &1 in library &2.

#### CPF9845

Error occurred while opening file &1.

#### CPF9846

Error while processing file &1 in library &2.

**CPF9847**

Error occurred while closing file &1 in library &2.

**CPF9870**

Object &2 type \*&5 already exists in library &3.

[Top](#)



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## Create Font Table (CRTFNTTBL)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Font Table (CRTFNTTBL) command allows the user to create a font mapping table to be used by Print Services Facility (PSF). These tables allow the user to change, add, and remove entries in a font table that controls:

1. Host-resident to printer-resident font character set mapping
2. Printer-resident to host-resident font character set mapping
3. Host-resident to printer-resident code page mapping
4. Printer-resident to host-resident code page mapping
5. Printer-resident to printer-resident font substitution mapping

In performing the printer to host and host to printer font mapping (first four tables above), the user tables are searched first for a match. If no match is found, then the system font or code page tables are searched.

For the printer-resident to printer-resident font substitution table, the following processing is done by the system:

- If the printer-resident font specified in the print job is supported by the printer, then it is used. The printer-resident to printer-resident font substitution table is not searched.
- If the printer-resident font specified in the print job is not supported by the printer, then the printer-resident to printer-resident font substitution table is searched.
  - If a matching entry is found in the printer-resident font substitution table and the entry is supported by the printer, then the specified substitute font in the printer-resident font substitution table is used.
  - If a matching entry is not found in the printer-resident font substitution table or if the specified substitute font is not supported by the printer, then the system will use its internal font substitution tables to perform the font substitution.

Refer to Printer Device Programming, SC41-5713 for more information on font mapping tables.

### Restrictions:

- The PSF feature is required to use this command.

Top

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## Parameters

Keyword	Description	Choices	Notes
FNTTBL	Font table	Single values: *PHFCS, *HPFCS, *PHCP, *HPCP Other values: <i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Font table	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , *CURLIB	
TEXT	Text 'description'	<i>Character value</i> , *BLANK	Optional
AUT	Authority	<i>Name</i> , *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE	Optional

---

## Font table (FNTTBL)

Specifies the name of the font table to be created. Only one font mapping table can be created on the system for each of the single values allowed for this parameter. When one of these values is specified, a font mapping table is created in library QUSRSYS with one of the following names:

Single value	Font table
-----	-----
*PHFCS	QPHFCS
*PHCP	QPHCP
*HPFCS	QHPFCS
*HPCP	QHPCP

You can also create a printer-resident to printer-resident font substitution table. Multiple printer-resident to printer-resident font substitution tables can be created on the system.

### Single values

#### \*PHFCS

The printer-resident to host-resident font character set mapping table is created. When this table is created, it will be named QPHFCS and will be created in library QUSRSYS. This table would be used when your application references printer-resident fonts and the printer, such as the 3827, 3825, 3820, 3900 Model 1, does not support resident fonts. Print Services Facility (PSF) must map the references from printer-resident fonts to host-resident fonts and download them.

#### \*PHCP

The printer-resident to host-resident code page mapping table is created. When this table is created, it will be named QPHCP and will be created in library QUSRSYS. This table is like the QPHFCS table, in that it is used when the application references printer-resident code pages and the printer being used does not support printer-resident code pages. The printer-resident code page must be mapped to a host-resident code page and downloaded to the printer by PSF.

#### \*HPFCS

The host-resident to printer-resident font character set mapping table is created. When this table is created, it will be named QHPFCS and will be created in library QUSRSYS. This table is used when your application references host-resident fonts (font character sets and code pages) and the printer, such as the 4224, 4234, 4230, 64XX, does not support downloading of host-resident fonts. PSF must map the references from host-resident fonts to printer-resident fonts.

#### \*HPCP

The host-resident to printer-resident code page mapping table is created. When this table is created, it will be named QHPCP and will be created in library QUSRSYS. This table is like the QHPFCS table, in that it is used when the application references host-resident code pages and the printer being used does not support host-resident code pages. The host-resident code page must be mapped to a printer-resident code page and downloaded to the printer by PSF.

### Qualifier 1: Font table

*name* Specify the name of the printer-resident to printer-resident font substitution table to be created.

The name of the font table must be specified when a printer-resident to printer-resident font substitution table is created. This printer-resident font substitution table should be used when all three of the following conditions exist:

- You are printing to a PSF attached printer.

- Your application specifies a printer-resident font which is not supported by the printer you are using.
- You want to specify a different substitute printer-resident font than the one selected by the system.

To use a printer-resident to printer-resident font substitution table with a particular PSF printer, you need to specify the name of the font table on the FNTTBL parameter of the Create PSF Configuration (CRTPSFCFG) or Change PSF Configuration (CHGPSFCFG) command.

## Qualifier 2: Library

### \*CURLIB

The current library is used to store the font table. If no library is specified as the current library for the job, the QGPL library is used.

*name* Specify the name of the library where you want to store the font table.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the font table.

### \*BLANK

No text is specified.

### *'character-value'*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority to the object, who are not on an authorization list, and whose group profile has no specific authority to the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the CRTAUT parameter on the Create Library (CRTLIB) command for the library containing the object to be created. If the value specified on the CRTAUT parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

Change authority allows the user to change and perform basic functions on the object. Change authority provides object operational authority and all data authorities.

\***ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management authority. The user can control the object's existence, specify the security for the object, change the object, perform basic functions on the object, and change ownership of the object.

\***USE** Use authority provides object operational authority, read authority, and execute authority.

### \*EXCLUDE

The user cannot access the object.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

---

## Examples

```
CRTFNTTBL  FNTTBL(*PHFCS)
           TEXT('Printer to Host Font Mapping Table')
```

This command creates a Printer to Host Font Mapping Table. The table will be named QPHFCS and created into library QUSRSYS. The table is created with no entries. Entries can be added or changed by running the Add Font Table Entry (ADDFNTTBLE) and Change Font Table Entry (CHGFNTTBLE) commands.

Top

---

## Error messages

### \*ESCAPE Messages

#### **CPF2283**

Authorization list &1 does not exist.

#### **PQT0121**

Font table &1 not created in library &2.

#### **CPF9810**

Library &1 not found.

#### **CPF9820**

Not authorized to use library &1.

#### **CPF9845**

Error occurred while opening file &1.

Top



---

## Create Form Definition (CRTFORMDF)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Form Definition (CRTFORMDF) command creates a form definition from a physical file. The physical file contains the form definition information. The form definition information, can, for example, come from a S/370\* host system and be in the Systems Application Architecture (SAA) format.

**Restriction:** If networking spooled files to a System/370\* system, the first two characters of the form definition name must be 'F1'.

Top

---

### Parameters

Keyword	Description	Choices	Notes
FORMDF	Form definition	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Form definition	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
FILE	File	<i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
MBR	Member	<i>Name, *FORMDF</i>	Optional, Positional 3
TEXT	Text 'description'	<i>Character value, *MBRTXT, *BLANK</i>	Optional
REPLACE	Replace form definition	<i>*YES, *NO</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

---

### Form definition (FORMDF)

Specifies the form definition being created.

This is a required parameter.

#### Qualifier 1: Form definition

*name* Specify the name of the form definition.

#### Qualifier 2: Library

##### \*CURLIB

The current library for the job is used to store the form definition. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where you want to store form definition.

Top

---

## Source file (FILE)

Specifies the file containing the form definition records sent to this system.

This is a required parameter.

### Qualifier 1: File

*name* Specify the name of the file containing the form definition records.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

### **\*CURLIB**

The current library for the job is used to locate the file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where the file is located.

Top

---

## Source file member (MBR)

Specifies the file member containing the form definition records.

### **\*FORMDF**

The name of the file member is specified in the **Form definition (FORMDF)** parameter of this command.

*name* Specify the name of the member in the file specified by the **Source file (FILE)** parameter.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### **\*MBRTXT**

The text is taken from the file member being used to create the form definition. You can add or change text for a database source member by using the Source Entry Utility (STRSEU) command, or by using either the Add Physical File Member (ADDPFM) command or the Change Physical File Member (CHGPFM) command. If the file is an inline file or a device file, the text is blank.

### **\*BLANK**

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Replace form definition (REPLACE)

Specifies whether an existing form definition with the same name as the one being created is replaced.

**\*YES** The existing form definition is replaced.

**\*NO** If a form definition with same name exists on the system, the create operation fails. The existing form definition is not replaced.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified on the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the **Create authority (CRTAUT)** parameter is changed, the new value will not affect any existing objects.

### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### **\*EXCLUDE**

The user cannot access the object.

**name** Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTFORMDF  FORMDF(*CURLIB/FORMDF1)
           FILE(*CURLIB/FORMDF)  MBR(F1A01238)
           AUT(*EXCLUDE)
           TEXT('Default form definition for AFP printers')
```

This command creates form definition FORMDF1 in the current library, or in the QGPL library if there is no current library. Input is taken from source file FORMDF with member F1A01238, in the current library. Specifying \*EXCLUDE for authority restricts the usage of the object to the owner. The text describes what the form definition represents.

Top

---

## Error messages

### \*ESCAPE Messages

**CPF2283**

Authorization list &1 does not exist.

**CPF8056**

File &1 in &2 not a physical file.

**CPF88C1**

Printer resource type &1 &2 was not created in library &3.

**CPF9809**

Library &1 cannot be accessed.

**CPF9810**

Library &1 not found.

**CPF9812**

File &1 in library &2 not found.

**CPF9822**

Not authorized to file &1 in library &2.

**CPF9845**

Error occurred while opening file &1.

**CPF9846**

Error while processing file &1 in library &2.

**CPF9847**

Error occurred while closing file &1 in library &2.

**CPF9870**

Object &2 type \*&5 already exists in library &3.

Top

---

## Create Filter (CRTFTR)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Filter (CRTFTR) command creates a filter object of the specified type. Filters contain selection entries and action entries. A filter allows the user to categorize data into groups and specify special actions to be applied to each group. The typical user is a system programmer or operator responsible for system management.

Top

---

### Parameters

Keyword	Description	Choices	Notes
FILTER	Filter	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Filter	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
TYPE	Type	*ALR, *PRB	Required, Positional 2
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

---

### Filter (FILTER)

Specifies the qualified name of the filter that is created.

The library specified must be on the system auxiliary storage pool (ASP number 1) or a configured basic user ASP (ASP numbers 2-32). The library cannot be on an independent ASP. The possible library values are:

**\*CURLIB**

The current library is used to locate the filter. If no library is specified as the current library for the job, the QGPL library is used.

***library-name***

Specify the name of the library where the filter is located.

***filter-name***

Specify the name of the filter that is to be created.

Top

---

### Type (TYPE)

Specifies the type of filter being created. The type of filter determines which applications can use the filter and the type of entries that can be placed in the filter.

- \***ALR** The filter is an alert filter. The i5/OS Alert Manager can use the filter on alerts that it receives or generates.
- \***PRB** The filter is a problem filter. The i5/OS Problem Manager uses the filter on problem entries that are created, changed, or deleted.

Top

---

## Text 'description' (TEXT)

Specifies text that briefly describes the object.

### \*BLANK

Text is not specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

- \***ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

- \***USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

- name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

---

## Examples

```
CRTFTR  FILTER(MYLIB/MYFILTER)  TYPE(*ALR)  AUT(*CHANGE)
        TEXT('My filter')
```

This command creates an alert filter called MYFILTER in the library MYLIB. The type is \*ALR and the public has \*CHANGE authority to the filter, described as 'My filter'.

[Top](#)

---

## Error messages

### \*ESCAPE Messages

#### CPF2108

Object &1 type \*&3 not added to library &2.

#### CPF2112

Object &1 in &2 type \*&3 already exists.

#### CPF2113

Cannot allocate library &1.

#### CPF2151

Operation failed for &2 in &1 type \*&3.

#### CPF2182

Not authorized to library &1.

#### CPF2283

Authorization list &1 does not exist.

[Top](#)





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## Create Graphics Symbol Set (CRTGSS)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Graphics Symbol Set (CRTGSS) command creates a graphics symbol set object from a physical file that contains symbol set data. Depending upon the contents of the file, the CRTGSS command creates either a vector symbol set (mode 3 graphics characters) or an image symbol set (mode 2 graphics characters).

The symbol set object can be used in a graphical data display manager (GDDM\*) or presentation graphics routines (PGR) graphics application program or in a Business Graphics Utility chart as an alternative to an IBM-supplied graphics symbol set. More information on the Business Graphics Utility is in the BGU User's Guide and Reference, SC09-1408 book.

**Restriction:** A physical file used with this command must contain records with no less than 80 bytes and no more than 400 bytes, and a source file must contain no less than 92 bytes and no more than 412 bytes. The contents of the file must be in symbol set format.

Top

---

### Parameters

Keyword	Description	Choices	Notes
GSS	Graphics symbol set	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Graphics symbol set	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
FILE	File	<i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
MBR	Member	<i>Name, *GSS</i>	Optional, Positional 3
TEXT	Text 'description'	<i>Character value, *MBRTXT, *BLANK</i>	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

---

### Graphics symbol set (GSS)

Specifies the name and library of the graphics symbol set being created. If no library name is given, the symbol set is stored in library \*CURLIB. Graphics symbol set names can be up to 8 characters in length.

This is a required parameter.

Top

---

## File (FILE)

Specifies the name and library of the source data file being used to create the symbol set.

This is a required parameter.

The possible library values are:

### \*CURLIB

The current library for the job is used to store the graphics symbol set. If no library specified as the current library for the job, QGPL is used.

### *library-name*

Specify the library where the graphics symbol set is to be stored.

Top

---

## Member (MBR)

Specifies the name of the file member being used to create the symbol set.

The possible values are:

\*GSS The name of the file member that contains the input data is the same as the symbol set being created.

### *member-name*

Specify the file member that contains the symbol set input data.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

The possible values are:

### \*MBRTXT

The text is taken from the file member being used to create the symbol set.

### \*BLANK

No text is specified.

### *'description'*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

The possible values are:

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified on the **Create**

**authority** prompt (CRTAUT parameter) on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified on the **Create authority** prompt (CRTAUT parameter) is changed, the new value will not affect any existing objects.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

*authorization-list-name*

Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Creating Set With Same Name as Source File

```
CRTGSS  GSS(GSSLIB/ADMVARP)  FILE(GSSLIB/ADMVARP)
```

This command creates a symbol set of the same name and in the same library as the source file.

### Example 2: Creating Set From Different Library

```
CRTGSS  GSS(*CURLIB/VECTOR1)  FILE(GSSLIB/QDATASRC)
        MBR(SCHEM)  AUT(*ALL)  TEXT('Schematic vector symbols')
```

This command creates a symbol set named VECTOR1 in the QGPL library from member SCHEM in file QDATASRC in library GSSLIB. The public has complete authority over the symbol set. Despite the fact that the symbol set data is stored in source physical file QDATASRC, it cannot be edited or shown by the source entry utility (SEU) because some of the contents of the symbol set data cannot be shown.

Top

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## Error messages

### \*ESCAPE Messages

**CPF8660**

Symbol set &1 not created in library &2.



## Create ICF File (CRTICFF)

Where allowed to run: All environments (\*ALL)  
 Threadsafes: No

Parameters  
 Examples  
 Error messages

The Create Intersystem Communications Function File (CRTICFF) command creates an intersystem communications function (ICF) file from the information specified on this command and from the data description specifications (DDS) contained in a source file.

An ICF file is used to perform input and output operations with communication devices.

Top

### Parameters

Keyword	Description	Choices	Notes
FILE	File	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: File	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
SRCFILE	Source file	<i>Qualified object name</i>	Optional, Positional 2
	Qualifier 1: Source file	<i>Name, QDDSSRC</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
SRCMBR	Source member	<i>Name, *FILE</i>	Optional, Positional 3
GENLVL	Generation severity level	0-30, <u>20</u>	Optional
FLAG	Flagging severity level	0-30, <u>0</u>	Optional
ACQPGMDEV	Program device to acquire	<i>Character value, *NONE</i>	Optional
TEXT	Text 'description'	<i>Character value, *SRCMBRTXT, *BLANK</i>	Optional
OPTION	Source listing options	Values (up to 3 repetitions): *SRC, *NOSRC, *SOURCE, *NOSOURCE, *LIST, *NOLIST, *SECLVL, *NOSECLVL	Optional, Positional 4
MAXPGMDEV	Maximum program devices	1-256, <u>1</u>	Optional
MAXRCLEN	Maximum record length	1-32767, *CALC	Optional
WAITFILE	Maximum file wait time	1-32767, *IMMED, *CLS	Optional
WAITRCD	Maximum record wait time	1-32767, *NOMAX, *IMMED	Optional
DTAQ	Data queue	Single values: *NONE Other values: <i>Qualified object name</i>	Optional
	Qualifier 1: Data queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *LIBL, *CURLIB</i>	
SHARE	Share open data path	*NO, *YES	Optional
LVLCHK	Record format level check	*YES, *NO	Optional
AUT	Authority	<i>Name, *LIBCRTAUT, *ALL, *CHANGE, *EXCLUDE, *USE</i>	Optional
REPLACE	Replace file	*YES, *NO	Optional

Top

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## File (FILE)

Specifies the intersystem communications function (ICF) file to be created.

If the file is used in a high-level language program, the file name should be consistent with the naming rules of that language. Otherwise, the file must be renamed in the program.

This is a required parameter.

### Qualifier 1: ICF communication file

*name* Specify the name of the ICF file.

### Qualifier 2: Library

#### \*CURLIB

The current library for the job is used to locate the ICF file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the ICF file is located.

Top

---

## Source file (SRCFILE)

Specifies the source file containing the data description specifications (DDS) source used to create the ICF file.

### Qualifier 1: Source file

#### QDDSSRC

The source file named QDDSSRC contains the DDS source used to create the ICF file.

*name* Specify the name of the source file.

### Qualifier 2: Library

\*LIBL All libraries in the library list for the current thread are searched until the first match is found.

#### \*CURLIB

The current library for the job is used to locate the source file. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the name of the library where the source file is located.

Top

---

## Source member (SRCMBR)

Specifies the source file member that contains the data description specifications (DDS) source for the ICF file being created.

\*FILE The source file member name is the same as the ICF file name specified in the **ICF communication file (FILE)** parameter.

*name* Specify the name of the member in the source file.

Top

---

## Generation severity level (GENLVL)

Specifies the severity level of data description specifications (DDS) messages that cause file creation to fail. This parameter applies only to messages created while processing DDS source files.

- 20 If errors occur in the DDS source file processing with a severity level greater than or equal to 20, the file is not created.
- 0-30** Specify the desired severity level value. If 0 is specified, the file is not created. The value specified must be greater than or equal to the value specified for the **Flagging severity level (FLAG)** parameter.

Top

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## Flagging severity level (FLAG)

Specifies the minimum severity level of messages to be listed.

- 0 All messages are listed.
- 0-30** Specify a number indicating the minimum severity of messages to be listed. The value specified must be greater than or equal to the value specified for the **Generation severity level (GENLVL)** parameter.

Top

---

## Program device to acquire (ACQPGMDEV)

Specifies which program device is acquired to use with the file when the file is opened.

\*NONE

The file is opened without an acquired program device. All program devices used with this file must be explicitly acquired before input/output can be started with them.

*character-value*

Specify the name of the first program device that is acquired when the file is opened. The program device must be added to the file before the file is opened.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

\*SRCMBRTXT

The text is taken from the source file member used to create the file if the source file is a database file. The text is blank if the source file is an inline file or a device file.

**\*BLANK**

No text is specified.

*character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## Source listing options (OPTION)

Specifies the type of printout produced when the file is created. A maximum of three of the following values can be specified in any order on this parameter. If neither or both of the values on an option are specified, the first value listed for the option is used.

**Note:** The first values on each option are similar to, but are not actually default values, and therefore, cannot be changed with the CHGCMDDFT (Change Command Default) command.

### Program Creation Option

#### \*SRC or \*SOURCE

A printout is created of the source statements used to create the file and any errors that occur.

#### \*NOSRC or \*NOSOURCE

No printout of the source statements is created unless errors are detected. If errors are detected, they are listed along with the record format containing the error.

### Source Listing Option

\*LIST An expanded source printout is created, showing a detailed list of the file specifications that result from the source statements and references to other file descriptions.

#### \*NOLIST

An expanded source printout is not created.

### Second-Level Message Text Option

#### \*NOSECLVL

The messages section of the DDS printout does not contain the second-level message text for errors found during DDS processing.

#### \*SECLVL

Second-level message text is included in the source listing.

Top

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## Maximum program devices (MAXPGMDEV)

Specifies the maximum number of program device entries that can be added to the ICF file. The program device entries are added by using the Add Intersystem Communications Function Device Entry (ADDICFDEVE) command.

1 Only one program device entry or \*REQUESTER can be added to this ICF file.

1-256 Specify the maximum number of program device entries that are defined for, or that can be added to, this ICF file.

Top

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## Maximum record length (MAXRCLEN)

Specifies the maximum number of bytes in the record length used when the file is opened.

#### \*CALC

The length calculated for the largest record in the file is used when the file is opened.

#### 1-32767

Specify the maximum record length. If the record length is less than the length calculated for the largest record in the file, then the calculated value is used.



---

## Maximum file wait time (WAITFILE)

Specifies the number of seconds that the program waits for the file resources to be allocated when the file is opened, or the device or session resources to be allocated when an acquire operation is performed to the file. If the file resources cannot be allocated in the specified wait time, an error message is sent to the program.

### \*IMMED

The program does not wait. Immediate allocation of file resources is required.

**\*CLS** The job default wait time is used as the wait time for the file resources to be allocated.

### *1-32767*

Specify the number of seconds to wait for file resources to be allocated.

---

## Maximum record wait time (WAITRCD)

Specifies the number of seconds the program waits for the completion of a read-from-invited-devices operation to a multiple device file in a high-level language program. Refer to the high-level language reference manual to determine when a file is treated as a multiple device file. The program performing the read operation waits for the input from all invited devices currently accessing the file. If a record is not returned from any of the invited program devices in the specified amount of time, a notify message is sent to the program. This parameter has no effect on an input operation directed to a single device.

### \*NOMAX

There is no limit on the time the system waits for the completion of the operation.

### \*IMMED

The program does not wait. If a record is not available when the read-from-invited-devices operation is done, a notify message is sent to the program.

### *integer*

Specify the maximum number of seconds that the program waits. Valid values range from 1 through 32767 seconds.

---

## Data queue (DTAQ)

Specifies the data queue on which entries are placed. The specified data queue must have a minimum length of 80 characters. The data queue need not exist when the display file is created since the name specified for this parameter is not evaluated until the file is used.

**Note:** Keyed data queues are not supported for this parameter. If a keyed data queue is specified, a run-time error will occur; but because it is not required that a data queue exist at the time the command is issued, the error will not be flagged.

### Single values

#### \*NONE

No data queue is specified.

### Qualifier 1: Data queue

*name* Specify the name of the data queue on which entries are placed.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library is used to locate the data queue. If no library is specified as the current library for the job, QGPL is used.

*name* Specify the library where the data queue is located.

Top

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## Share open data path (SHARE)

Specifies whether the open data path (ODP) is shared with other programs in the same routing step. When an ODP is shared, the programs accessing the file share facilities such as the file status and the buffer.

**\*NO** The ODP is not shared with other programs in the routing step. A new ODP for the file is created and used every time a program opens the file.

**\*YES** The same ODP is shared with each program in the job that also specifies \*YES when it opens the file.

Top

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## Record format level check (LVLCHK)

Specifies whether the level identifiers of the record formats in the ICF device file are checked when the file is opened by a program.

**\*YES** The level identifiers of the record formats are checked. If the level identifiers do not all match, an open error message is sent to the program that tried to open the file.

**\*NO** The level identifiers are not checked when the file is opened.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

**\*LIBCRTAUT**

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

- \*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.
- \*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.
- \*EXCLUDE**  
The user cannot access the object.
- name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Replace file (REPLACE)

Specifies whether an existing file, other than a save or database file, is replaced.

- \*YES** An existing file with the same name and library is replaced if the creation of the new ICF file is successful.
- \*NO** The creation of a new ICF file is not allowed if there is an existing file with the same name and library.

Top

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## Examples

```
CRTICFF FILE(QGPL/ICFTEST) SRCFILE(QGPL/QDDSSRC)
        MAXPGMDEV(5) ACQPGMDEV(DENVER)
```

This command creates the file ICFTEST in the QGPL library. The DDS source used to create the file is in member ICFTEST from file QDDSSRC in the QGPL library. Up to five program devices can be used with the file. The program device DENVER is acquired when the file is opened.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF7302

File &1 not created in library &2.

Top



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## Create DBCS Conversion Dict (CRTIGCDCT)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create DBCS Conversion Dictionary (CRTIGCDCT) command creates the specified double-byte character set (DBCS) conversion dictionary and stores that dictionary in the specified library. The dictionary contains alphanumeric entries and their related DBCS words. The system refers to DBCS conversion dictionaries when doing DBCS conversion.

Top

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### Parameters

Keyword	Description	Choices	Notes
IGCDCT	DBCS conversion dictionary	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: DBCS conversion dictionary	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
AUT	Authority	<i>Element list</i>	Optional
	Element 1:	<i>Character value, *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE</i>	

Top

---

### DBCS conversion dictionary (IGCDCT)

Specifies the name of the double-byte character set (DBCS) conversion dictionary created and the library in which it is stored. If you do not specify a library name, the dictionary is stored in the current library for the job. If no library is specified as the current library for the job, QGPL is used.

This is a required parameter.

**Note:** A user-created DBCS conversion dictionary can have any name, but is used for performing DBCS conversion only if it is named QUSRIGCDCT.

Top

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### Text 'description' (TEXT)

Specifies the text that briefly describes the object.

#### \*BLANK

No text is specified.

#### *'description'*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the **Create authority (CRTAUT)** parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

### \*EXCLUDE

The user cannot access the object.

### *authorization-list-name*

Specify the name of an authorization list. Users included on the authorization list are granted authority to the object as specified by the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTIGCDCT  IGCDCT(DBCSLIB/QUSRIGCDCT)
```

This command creates a DBCS conversion dictionary named QUSRIGCDCT, which is stored in the library DBCSLIB.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF8431

DBCS conversion dictionary &2 not created in library &3.

Top

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# Create Image Catalog (CRTIMGCLG)

**Where allowed to run:** All environments (\*ALL)  
**Threadsafe:** No

Parameters  
Examples  
Error messages

The Create Image Catalog (CRTIMGCLG) command is used to create an image catalog object (\*IMGCLG) in library QUSRSYS and associate the image catalog with a target directory.

This command also creates an image catalog object QIMGCLG of type stream file (\*STMF) in the directory specified on the Directory (DIR) parameter. This catalog object is used when IMPORT(\*YES) is specified on the Create Image Catalog (CRTIMGCLG) or Change Image Catalog (CHGIMGCLG) commands to recover your image catalog from the image catalog directory.

An image catalog can be associated with a virtual optical or virtual tape device. It contains information about images that have been added to the image catalog using the Add Image Catalog Entry (ADDIMGCLGE) command. The image catalog contains the following information:

## Directory name

The directory where the image files will reside.

## Device name

The device name of the virtual device associated with the image catalog.

## Catalog Status

The current status of the image catalog and its association with a virtual device.

## Catalog Auxiliary Storage Pool (ASP) Threshold

The percentage of the auxiliary storage pool (ASP) that a virtual volume will be allowed to use during creation and additional space allocation.

The image catalog contains the following information for each entry:

## Image file name

The name of the image file.

## Volume identifier or name

The formatted name of the optical or tape volume that image file represents.

## Index number

The order of this image within the image catalog.

## Image file status

The status of the image within the virtual device.

**Text** A short description of the image.

## Restrictions:

- The following authorities are required to create an image catalog:
  1. Read (\*READ) and Add (\*ADD) authority to library QUSRSYS.
  2. Execute (\*X) authority to each directory in the image catalog path name.
- If the REFIMGCLG parameter is specified, the following additional authorities are required:
  1. Use (\*USE) authority to the reference image catalog.
  2. Execute (\*EXECUTE) authority to library QUSRSYS.

- If the Add virtual volumes (ADDVRTVOL) parameter is specified, the following additional authorities are required:
  1. Execute (\*EXECUTE) authority to library QUSRSYS.
  2. Change (\*CHANGE) authority to the image catalog.
- If IMPORT(\*YES) is specified, read (\*R) and object management (\*OBJMGT) authorities are required to the image catalog object in the directory as specified on the Directory (DIR) parameter.
- A directory can only be associated with a single image catalog.
- If DIR(\*REFIMGCLG) is specified, the catalog defined by the REFIMGCLG parameter must not be in ready status.
- The following file-systems are supported for the image catalog directory:
  1. "root" (/)
  2. QOpenSys
  3. User-defined file systems (UDFSs) that support \*TYPE2 files.
- The root directory of a UDFS is not supported for the image catalog directory.

Top

## Parameters

Keyword	Description	Choices	Notes
IMGCLG	Image catalog	<i>Name</i>	Required, Positional 1
DIR	Directory	<i>Path name</i> , *REFIMGCLG	Required, Positional 2
TYPE	Image catalog type	* <u>OPT</u> , *TAP	Optional, Positional 3
CRTDIR	Create directory	* <u>YES</u> , *NO	Optional
IMPORT	Import image catalog	* <u>NO</u> , *YES	Optional
CLGASPTHLD	Catalog ASP threshold	1-99, * <u>CALC</u> , *MAX	Optional
ADDVRTVOL	Add virtual volumes	1-256, * <u>NONE</u>	Optional
REFIMGCLG	Reference image catalog	<i>Name</i>	Optional
PREFIX	File and volume name prefix	<i>Character value</i> , * <u>GEN</u>	Optional
IMGSIZ	Image size	48-1000000, * <u>IMGCLGTYPE</u> , *CD650, *DVD2600, *DVD4700	Optional
ALCSTG	Allocate storage size	* <u>MIN</u> , *IMGSIZ	Optional
VOLTYP	Volume type	* <u>SL</u> , *NL	Optional
DENSITY	Tape density	* <u>VRT256K</u> , *VRT240K, *VRT64K, *VRT32K	Optional
NEWOWNID	New owner identifier	<i>Character value</i> , * <u>BLANK</u>	Optional
CODE	Code	* <u>EBCDIC</u> , *ASCII	Optional
TEXT	Text 'description'	<i>Character value</i> , * <u>BLANK</u>	Optional
AUT	Authority	<i>Name</i> , * <u>EXCLUDE</u> , *LIBCRTAUT, *CHANGE, *ALL, *USE	Optional

Top

## Image catalog (IMGCLG)

Specifies the image catalog to be created.

This is a required parameter.



*name* Specify the name of the image catalog.

Top

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## Directory (DIR)

Specifies the directory to be associated with this image catalog.

This is a required parameter.

### *path-name*

Specify the path name of the directory for the image catalog. If symbolic links exist in the path name, the links will be resolved and the absolute path will be used.

### **\*REFIMGCLG**

Specify the name of another image catalog as a reference for the new image catalog.

**Note:** The requirements for catalogs created using the \*REFIMGCLG parameter are complex with respect to the limitations and supported uses. For details see the **Storage solutions category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>**.

Top

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## Image catalog type (TYPE)

Specifies the type of image catalog to create.

**\*OPT** This is an optical image catalog. Only optical image catalog entries are allowed in this type of catalog.

**\*TAP** This is a tape image catalog. Only tape image catalog entries are allowed in this type of catalog.

Top

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## Create directory (CRTDIR)

Specifies whether the directory (DIR parameter) should be created if it doesn't exist.

**\*YES** The directory will be created if it does not exist. The created directory will have the following default authorities:

User	Data	Object Authorities			
	Authority	Exist	Mgt	Alter	Ref
*PUBLIC	*EXCLUDE				
Owner	*RWX	X	X	X	X

For all other attributes, the defaults as provided on the CRTDIR command are chosen.

**\*NO** The directory will not be created.

Top

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## Import image catalog (IMPORT)

Specifies whether to import the catalog and entry information from the image catalog directory.

**\*NO** Create the image catalog with no information from the image catalog directory.

**\*YES** Create the catalog by importing the data from image catalog object QIMGCLG located in the directory specified on the Directory (DIR) parameter.

**Note:** The values of the Image catalog (IMGCLG), Directory (DIR), and Text description (TEXT) parameters specified on the Create Image Catalog (CRTIMGCLG) command are used for the image catalog. All other values are imported from image catalog object QIMGCLG.

Top

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## Catalog ASP threshold (CLGASPTHLD)

Specifies the percentage of the auxiliary storage pool (ASP) that a virtual volume will be allowed to use during creation and additional space allocation. This value is enforced when new volumes are added, allocated or when files are expanding during write operations.

### \*CALC

The maximum storage threshold is calculated. The ASP space to be used by an image catalog virtual volume is the greater of either 95% or 5GB of space remaining in the ASP. The tape operation will stop with an end of media error when the maximum storage threshold for the virtual volume is reached. Adding of a virtual volume will also check for this limit when ALCSTG(\*IMGSIZ) is specified.

**\*MAX** The maximum storage available in the ASP where the image catalog directory is located will be used by virtual volumes.

**1-99** Specify the percent of image catalog directory ASP space to be used by virtual volumes.

Top

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## Add virtual volumes (ADDVRTVOL)

Specifies the number of virtual volumes to automatically add to the image catalog. The following attributes will be used in the creation of these new virtual volumes:

1. PREFIX
2. ALCSTG
3. VOLNAM
4. VOLTYP
5. DENSITY
6. NEWOWNID
7. CODE

This parameter is valid for tape and optical image catalogs. For optical image catalogs, volumes are added, fully allocated and are not initialized. For tape image catalogs, volumes are added and initialized. For additional information, refer to the Add Image Catalog Entry (ADDIMGCLGE) command.

### \*NONE

No virtual volumes will be added.

**1-256** Specify the number of virtual volumes to add to the image catalog.

Top

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## Reference image catalog (REFIMGCLG)

Specifies the name of the image catalog as a reference for the new image catalog. The new dependent image catalog will contain the image catalog entries that exist in the reference image catalog at the time the dependent image catalog is created. Any additional changes to the reference image catalog will not be reflected in the dependent image catalog.

This parameter is valid only when DIR(\*REFIMGCLG) is specified.

*name* Specify the name of the reference image catalog.

Top

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## File and volume name prefix (PREFIX)

Specifies the 3 characters used to generate volume names and file names for the ADDVRTVOL parameter.

\*GEN The 3 character volume name and image file name prefix will be generated by the system.

*character-value*

Specify up to a 3 character prefix to be used to generate volume and image file names.

Top

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## Image size (IMGSIZ)

Specifies the size of the new image files that are to be created.

For optical image catalogs, this parameter indicates the size of the optical image file that is to be created and the amount of system storage to be allocated.

For tape image catalogs, this parameter indicates the maximum size allowed for this tape image file. If ALCSTG(\*MIN) is specified, only the amount of storage required to initialize the image file will be allocated. If ALCSTG(\*IMGSIZ) is specified, the amount of storage allocated will be the value specified on the IMGSIZ parameter.

\*IMGCLGTYPE

The size of the image file to be created will be determined by the type of image catalog.

For optical image catalogs, the size of the image file created will be 650 MB. Optical images created with this size can be written to any standard 650 MB media.

For tape image catalogs, the maximum size of the image file created will be set to 1 gigabyte.

\*CD650

The size of the optical image file will be 650 megabytes. Optical images created with this size can be written to any standard 650 MB optical media.

\*DVD2600

The size of the optical image file will be 2.6 gigabytes. Optical images created with this size can be written to any 2.6 GB media.

\*DVD4700

The size of the optical image file will be 4.7 gigabytes. Optical images created with this size can be written to any 4.7 GB media.

*number*

Specify the number of megabytes for the new image file. For optical image files, the valid range is 48-16000 megabytes. For tape image files, the valid range is 48-1000000 megabytes.

---

## Allocate storage size (ALCSTG)

Specifies for tape image files, whether to allocate the entire amount of storage specified on the **Image size (IMGSIZ)** parameter.

**\*MIN** Only allocate storage required to initialize the tape image file at the time of the create.

**\*IMGSIZ**

Allocate the entire amount of storage specified on the **Image size (IMGSIZ)** parameter.

Top

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## Volume type (VOLTYP)

Specifies the type of volume for this virtual tape volume.

**\*SL** The type of volume is a standard labeled tape volume.

**\*NL** The type of volume is a non-labeled tape volume.

Top

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## Tape density (DENSITY)

Specifies the density for this virtual tape volume.

**\*VRT256K**

The format of the volume is \*VRT256K. It is used to write data to a virtual volume using a maximum data block size of 256KB. Volumes written using this format can only be duplicated to tape devices that support a maximum block size of 256KB or greater.

**\*VRT240K**

The format of the volume is \*VRT240K. It is used to write data to a virtual volume using a maximum data block size of 240KB. Volumes written using this format can only be duplicated to tape devices that support a maximum block size of 240KB or greater.

**\*VRT64K**

The format of the volume is \*VRT64K. It is used to write data to a virtual volume using a maximum data block size of 64KB. Volumes written using this format can only be duplicated to tape devices that support a maximum block size of 64KB or greater.

**\*VRT32K**

The format of the volume is \*VRT32K. It is used to write data to a virtual volume using a maximum data block size of 32KB. Volumes written using this format can be duplicated to all supported tape devices.

Top

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## New owner identifier (NEWOWNID)

Specifies the identifier of the tape owner for this virtual tape volume. This parameter is only used for a volume type of \*SL.

**\*BLANK**

No identifier will be specified.

*name* Specify no more than 14 characters that identify the owner of the virtual tape volume. If fewer than 14 characters are specified, the field is left-justified and padded on the right with blanks.

Top

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## Code (CODE)

Specifies the character code in which the volume label is written. All data that is not save data written after the label must be in the same code. Codes cannot be intermixed on a tape that is not a save tape. This parameter is only used for a volume type of \*SL.

### \*EBCDIC

The volume label is written in EBCDIC and is an IBM standard label; all additional data must also be written in EBCDIC.

### \*ASCII

The volume label is written in ASCII and is an ANSI standard label; all additional data must also be written in ASCII.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the image catalog being created.

### \*BLANK

The text description will be blank.

### *character-value*

Specify up to 50 characters of text for this image catalog.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*EXCLUDE

The user cannot access the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

### \*CHANGE

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

\*ALL The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence,

specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Creating an Optical Image Catalog

```
CRTIMGCLG  IMGCLG(MYCLG)  DIR('/MyDir')
```

This command creates optical image catalog **MYCLG** in library QUSRSYS and associates directory **/MyDir** with it.

### Example 2: Creating an Image Catalog Using a Reference Image Catalog

```
CRTIMGCLG  IMGCLG(MYCLG)  DIR(*REFIMGCLG) REFIMGCLG(MYCLG2)
```

This command creates optical image catalog **MYCLG**, based on image catalog **MYCLG2** in library QUSRSYS and associates the directory specified in image catalog **MYCLG2** with it.

### Example 3: Creating a Tape Image Catalog

```
CRTIMGCLG  IMGCLG(TAPECLG)  DIR('/TapeDir') TYPE(*TAP)
```

This command creates tape image catalog **TAPECLG** in library QUSRSYS and associates directory **/TapeDir** with it.

### Example 4: Creating a Tape Image Catalog with Additional Volumes

```
CRTIMGCLG  IMGCLG(TAPECLG)  DIR('/TapeDir') TYPE(*TAP)
          ADDVRTVOL(12)  IMGSIZ(1500)
```

This command creates tape image catalog **TAPECLG** in library QUSRSYS and associates directory **/TapeDir** with it. It adds 12 tape volumes with default volume values and a maximum size of 1500 MB. The default volume values are as follows:

- PREFIX(\*GEN)
- ALCSTG(\*MIN)
- VOLTYP(\*SL)
- DENSITY(\*VRT256K)
- NEWOWNID(\*BLANK)
- CODE(\*EBCDIC)

### Example 5: Creating an Image Catalog Imported From the Image Catalog Directory

```
CRTIMGCLG  IMGCLG(MYCLG)  DIR('/MyDir')  IMPORT(*YES)
```

This command creates image catalog **MYCLG** in library QUSRSYS and associates directory **/MyDir** with it. It updates the catalog and entry information from the catalog directory.

[Top](#)

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## Error messages

### \*ESCAPE Messages

#### CPFBC02

Image catalog &1 was not created in library &2.

#### CPFBC12

Image catalog &1 created. &2 of &3 volumes not added.

#### CPFBC45

Image catalog &1 not found.

#### CPF9802

Not authorized to object &2 in &3.

#### CPF9820

Not authorized to use library &1.

[Top](#)





## Create Job Description (CRTJOBDB)

Where allowed to run: All environments (\*ALL)  
 Threadsafte: No

Parameters  
 Examples  
 Error messages

The Create Job Description (CRTJOBDB) command creates a job description object that contains a specific set of job-related attributes that can be used by one or more jobs. The attributes determine how each job is run on the system. The same job description can be used by multiple jobs. The values in the job description are usually used as the default values of the corresponding parameters in the Batch Job (BCHJOB) and Submit Job (SBMJOB) commands when their parameters are not specified.

The values in the job description can be overridden by the values specified on the BCHJOB and SBMJOB commands.

### Restrictions:

- To use this command, you must have:
  - read (\*READ) and add (\*ADD) authority to the library where the job description is to be created.
  - use (\*USE) authority to the user profile specified on the User (USER) parameter.
- To create a job description with an accounting code other than \*USRPRF, you must have \*USE authority to the Change Accounting Code (CHGACGCDE) command.

Top

## Parameters

Keyword	Description	Choices	Notes
JOBDB	Job description	Qualified object name	Required, Positional 1
	Qualifier 1: Job description	Name	
	Qualifier 2: Library	Name, *CURLIB	
JOBQ	Job queue	Qualified object name	Optional, Positional 3
	Qualifier 1: Job queue	Name, QBATCH	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
JOBPTY	Job priority (on JOBQ)	1-9, 5	Optional
OUTPTY	Output priority (on OUTQ)	1-9, 5	Optional
PRTDEV	Print device	Name, *USRPRF, *SYSVAL, *WRKSTN	Optional
OUTQ	Output queue	Single values: *USRPRF, *DEV, *WRKSTN Other values: Qualified object name	Optional
	Qualifier 1: Output queue	Name	
	Qualifier 2: Library	Name, *LIBL, *CURLIB	
TEXT	Text 'description'	Character value, *BLANK	Optional
USER	User	Name, *RQD	Optional, Positional 2
ACGCDE	Accounting code	Character value, *USRPRF, *BLANK	Optional
PRTTXT	Print text	Character value, *SYSVAL, *BLANK	Optional
RTGDTA	Routing data	Character value, QCMDI, *RQSDTA	Optional
RQSDTA	Request data or command	Character value, *NONE, *RTGDTA	Optional

Keyword	Description	Choices	Notes
INLLIBL	Initial library list	Single values: *SYSVAL, *NONE Other values (up to 250 repetitions): <i>Name</i>	Optional
INLASGRP	Initial ASP group	<i>Name</i> , *NONE	Optional
LOG	Message logging	<i>Element list</i>	Optional
	Element 1: Level	0-4, <u>4</u>	
	Element 2: Severity	0-99, <u>0</u>	
	Element 3: Text	*NOLIST, *MSG, *SECLVL	
LOGCLPGM	Log CL program commands	*NO, *YES	Optional
LOGOUTPUT	Job log output	*SYSVAL, *JOBLOGSVR, *JOBEND, *PND	Optional
JOBMSGQMX	Job message queue maximum size	2-64, *SYSVAL	Optional
JOBMSGQFL	Job message queue full action	*SYSVAL, *NOWRAP, *WRAP, *PRTWRAP	Optional
SYNTAX	CL syntax check	0-99, *NOCHK	Optional
ENDSEV	End severity	0-99, <u>30</u>	Optional
INQMSGRPY	Inquiry message reply	*RQD, *DFT, *SYSRPLY	Optional
HOLD	Hold on job queue	*NO, *YES	Optional
DATE	Job date	<i>Date</i> , *SYSVAL	Optional
SWS	Job switches	<i>Character value</i> , 00000000	Optional
DEVRCYACN	Device recovery action	*SYSVAL, *MSG, *DSCMSG, *DSCENDRQS, *ENDJOB, *ENDJOBNO LIST	Optional
TSEPOOL	Time slice end pool	*SYSVAL, *NONE, *BASE	Optional
AUT	Authority	<i>Name</i> , *LIBCRTAUT, *CHANGE, *ALL, *USE, *EXCLUDE	Optional
ALWMLTTHD	Allow multiple threads	*NO, *YES	Optional
SPLFACN	Spoiled file action	*SYSVAL, *KEEP, *DETACH	Optional
DDMCNV	DDM conversation	*KEEP, *DROP	Optional

Top

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## Job description (JOB D)

Specifies the name and library of the job description being created.

This is a required parameter.

### Qualifier 1: Job description

*name* Specify the name of the job description.

### Qualifier 2: Library

#### \*CURLIB

The current library for the thread is used to locate the object. If no current library entry exists in the thread's library list, the library QGPL is used.

*name* Specify the library where the object is located.

Top

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## Job queue (JOBQ)

Specifies the name and library of the default job queue where jobs submitted using this job description are placed.

### Qualifier 1: Job queue

#### QBATCH

The QBATCH job queue is the queue where the jobs are placed.

*name* Specify the name of the job queue.

### Qualifier 2: Library

\*LIBL All libraries in the thread's library list are searched until a match is found.

#### \*CURLIB

The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the job queue is located.

**Note:** If the job queue does not exist when the job description is created, a library qualifier must be specified because the name of the qualified job queue is kept in the job description.

Top

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## Job priority (on JOBQ) (JOBPTY)

Specifies the job queue scheduling priority used for jobs that use this job description. The highest priority is 1 and the lowest priority is 9.

5 The scheduling priority for any job using this job description is 5.

*1-9* Specify the scheduling priority of jobs that use this job description.

Top

---

## Output priority (on OUTQ) (OUTPTY)

Specifies the output priority of spooled output files produced by jobs that use this job description. The highest priority is 1 and the lowest priority is 9.

5 The output priority for spooled files produced using this job description is 5.

*1-9* Specify a value ranging from 1 through 9 for the output priority of the spooled output files that are produced by jobs that use this job description. The highest priority is 1 and the lowest priority is 9.

Top

---

## Print device (PRTDEV)

Specifies the qualified name of the default printer device for this job. If the printer file being used to create the output specifies to spool the file, the spooled file is placed on the device's output queue, which is named the same as the device.

**Note:** This assumes the defaults are specified on the **Output queue (OUTQ)** parameter for the printer file, job description, user profile and workstation.

### **\*USRPRF**

The printer device name for jobs that use this job description is taken from the user profile associated with the job at the time the job is started.

### **\*SYSVAL**

The value in the system value QPRTDEV at the time the job is started is used as the printer device.

### **\*WRKSTN**

The printer device used with this job description is the printer device assigned to the work station that is associated with the job at the time the job is started.

*name* Specify the printer device to be used by jobs that use this job description.

Top

---

## **Output queue (OUTQ)**

Specifies the name and library of the output queue used as the default output queue for jobs that use this job description. This parameter applies only to spooled printer files that specify \*JOB for the output queue.

### **Single values**

#### **\*USRPRF**

The output queue for jobs using this job description is obtained from the user profile associated with the job at the time the job is started.

**\*DEV** The output queue associated with the printer specified on the **Device (DEV)** parameter of the printer file is used. The output queue has the same name as the printer. The printer file DEV parameter is determined by the Create Printer File (CRTPRTF), Change Printer File (CHGPRTF), or the Override with Printer File (OVRPRTF) commands.

**Note:** This assumes the defaults were specified on the OUTQ parameter for the printer file, job description, user profile, and workstation.

#### **\*WRKSTN**

The output queue to be used with this job description is the output queue assigned to the work station that is associated with the job at the time the job is started.

### **Qualifier 1: Output queue**

*name* Specify the name of the output queue to be used with this job description

### **Qualifier 2: Library**

**\*LIBL** All libraries in the thread's library list are searched until a match is found.

#### **\*CURLIB**

The current library for the thread is used to locate the object. If no library is specified as the current library for the thread, the QGPL library is used.

*name* Specify the library where the output queue is located.

**Note:** If the output queue does not exist when the job description is created, a library qualifier must be specified because the qualified output queue name is kept in the job description.

Top

---

## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### *character-value*

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

---

## User (USER)

Specifies the name of the user profile associated with this job description. The names QSECOFR, QSPL, QDOC, QDBSHR, QRJE, QSYS, QLPAUTO, QLPINSTALL, QTSTRQS, and QDFTOWN are not valid entries for this parameter.

### \*RQD

A user name is required to use the job description. For work station entries, you must enter a user name when signing on at the work station; the associated user name becomes the name used for the job. \*RQD is not valid for job descriptions specified for autostart job entries or for those used by the Batch Job (BCHJOB) command. It is valid on the Submit Job (SBMJOB) command only if \*CURRENT is specified on the **User (USER)** parameter.

### *name*

Specify the user name that identifies the user profile associated with batch jobs using this job description. For interactive jobs, this is the default user name used to sign on the system without typing a user name.

Top

---

## Accounting code (ACGCDE)

Specifies the accounting code that is used when logging system resource use for jobs that use this description. To specify an accounting code other than \*USRPRF, you must be authorized to the Change Accounting Code (CHGACGCDE) command.

### \*USRPRF

The accounting code for jobs using this job description is obtained from the user profile associated with the job.

### \*BLANK

An accounting code of 15 blanks is assigned to jobs that use this job description.

### *character-value*

Specify the accounting code for jobs that use this job description and have accounting statistics logged in the system accounting journal QACGJRN. If less than 15 characters are entered, the string is padded with blanks on the right.

Top

---

## Print text (PRTTXT)

Specifies the printing of a line of text at the bottom of each page.

### \*SYSVAL

The value in the system value QPRTTXT is used.

### \*BLANK

No text is printed.

*character-value*

Specify the character string that is printed at the bottom of each page. A maximum of 30 characters can be entered enclosed in apostrophes.

Top

---

## Routing data (RTGDTA)

Specifies the routing data used with this job description to start jobs.

### QCMDI

The default routing data QCMDI is used by the IBM-supplied interactive subsystem to route the job to the IBM-supplied control language processor QCMD in the QSYS library.

### \*RQSDTA

Up to the first 80 characters of the request data specified on the **Request data or command (RQSDTA)** parameter are used as the routing data for the job.

*character-value*

Specify the routing data for jobs that use this job description. A maximum of 80 characters can be typed (enclosed in apostrophes if necessary).

Top

---

## Request data or command (RQSDTA)

Specifies the request data that is placed as the last entry in the job's message queue for jobs using this job description.

### \*NONE

No request data is placed in the job's message queue.

### \*RTGDTA

The routing data specified on the **Routing data (RTGDTA)** parameter is placed as the last entry in the job's message queue.

*character-value*

Specify the character string that is placed as the last entry in the job's message queue as a single request. A maximum of 256 characters can be entered (enclosed in apostrophes if necessary). When a CL command is entered, it must be enclosed in single apostrophes, and where apostrophes would normally be used **inside** the command, double apostrophes must be used instead.

Top

---

## Initial library list (INLLIBL)

Specifies the initial user part of the library list to be used for jobs using this job description.

**Note:** Duplication of library names in the library list is not allowed.

### Single values

### \*SYSVAL

The system default library list is used for jobs that use this job description. The default library list contains the library names that were specified in the system value QUSRLIBL at the time a job using this job description is started.

### \*NONE

The user part of the library list is empty; only the system portion is used.

### Other values (up to 250 repetitions)

*name* Specify the library in the user part of the library list to be used for jobs using this job description.

**Note:** Libraries are searched in the same order as they are listed here.

Top

---

## Initial ASP group (INLASPGRP)

Specifies the initial setting for the auxiliary storage pool (ASP) group name for the initial thread of jobs using this job description. A thread can use the Set ASP Group (SETASPGRP) command to change its library name space. When an ASP group is associated with a thread, all libraries in the independent ASPs in the ASP group are accessible and objects in those libraries can be referenced using regular library-qualified object name syntax. The libraries in the independent ASPs in the specified ASP group plus the libraries in the system ASP (ASP number 1) and basic user ASPs (ASP numbers 2 - 32) form the library name space for the thread.

### Restrictions:

1. The job descriptions QGPL/QDFTJOB and QGPL/QDFTSVR cannot be changed to specify the name of an ASP group. For these job descriptions, the INLASPGRP must be \*NONE.

### \*NONE

Specifies the initial thread of jobs using this job description will be started with no ASP group. The library name space will not include libraries from any ASP group. Only the libraries in the system ASP and any basic user ASPs will be in the library name space.

*name* Specifies the name of the ASP group to be set for the initial thread of jobs using this job description. The ASP group name is the name of the primary ASP device within the ASP group. All libraries from all ASPs in this ASP group will be included in the library name space.

Top

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## Message logging (LOG)

Specifies the message logging values used to determine the amount and type of information sent to the job log by this job. This parameter has three elements: the message (or logging) level, the message severity, and the level of message text.

### Element 1: Level

4 A message logging level of 4 is used for jobs that use this job description.

0-4 Specify the message logging level to be used for the job's messages.

0 No messages are logged.

1 All messages sent to the job's external message queue with a severity greater than or equal to the message logging severity are logged. This includes the indications of job start, job end, and job completion status.

2 The following information is logged:

- Logging level 1 information

- Request messages which result in a high-level message with a severity code greater than or equal to the message logging severity. Both the request message and all associated messages are logged.

**Note:** A high-level message is one that is sent to the program message queue of the program that receives the request message. For example, QCMD is an IBM-supplied request processing program that receives request messages.

**3** The following information is logged:

- Logging level 1 and 2 information
- All request messages
- Commands run by a CL program are logged if it is allowed by the logging of CL programs job attribute and the log attribute of the CL program.

**4** The following information is logged:

- All request messages and all messages with a severity greater than or equal to the message logging severity, including trace messages.
- Commands run by a CL program are logged if it is allowed by the logging of CL programs job attribute and the log attribute of the CL program.

## Element 2: Severity

**0** A message severity level of 0 is used for jobs that use this job description.

**0-99** Specify the message severity level to be used in conjunction with the logging level to determine which error messages are logged in the job log.

## Element 3: Text

### \*NOLIST

If the job ends normally, no job log is produced. If the job ends abnormally (if the job end code is 20 or higher), a job log is produced. The messages that appear in the job log contain both the message text and the message help.

**\*MSG** Only the message text is written to the job log.

### **\*SECLVL**

Both the message text and the message help (cause and recovery) of the error message are written to the job log.

Top

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## Log CL program commands (LOGCLPGM)

Specifies whether the commands that can be logged and were run in a control language program are logged to the job log by way of the CL program's message queue. This parameter sets the status of the job's logging flag. If \*NO is specified, the logging flag status is **off** and CL commands are not logged. If \*YES is specified here and \*JOB is specified on the **Message logging (LOG)** parameter of the Create CL Program (CRTCLPGM) command, all commands in the CL program that can be logged are logged to the job log.

**\*NO** The commands in a CL program are not logged to the job log.

**\*YES** The commands in a CL program are logged to the job log.

Top



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## Job log output (LOGOUTPUT)

Specifies how the job log will be produced when the job completes. This does not affect job logs produced when the message queue is full and the job message queue full action specifies \*PRTWRAP. Messages in the job message queue are written to a spooled file, from which the job log can be printed, unless the Control Job Log Output (QMHCTLJL) API was used in the job to specify that the messages in the job log are to be written to a database file.

The job log output value can be changed at any time until the job log has been produced or removed. To change the job log output value for a job, use the Change Job (QWTCHGJB) API or the Change Job (CHGJOB) command.

The job log can be displayed at any time until the job log has been produced or removed. To display the job log, use the Display Job Log (DSPJOBLOG) command.

The job log can be removed when the job has completed and the job log has not yet been produced or removed. To remove the job log, use the Remove Pending Job Log (QWTRMVJL) API or the End Job (ENDJOB) command.

### \*SYSVAL

The value specified in the system value QLOGOUTPUT is used.

### \*JOBLOGSVR

The job log will be produced by a job log server. For more information about job log servers, refer to the Start Job Log Server (STRLOGSVR) command.

### \*JOBEND

The job log will be produced by the job itself. If the job cannot produce its own job log, the job log will be produced by a job log server. For example, a job does not produce its own job log when the system is processing a Power Down System (PWRDWN SYS) command.

**\*PND** The job log will not be produced. The job log remains pending until removed.

Top

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## Job message queue maximum size (JOBMSGQMX)

Specifies the maximum size of the job message queue.

### \*SYSVAL

The value in QJOBMSGQMX (system value) at the time the job is started is used as the maximum size of the job message queue.

**2-64** Specify the maximum size, in megabytes, of the job message queue.

Top

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## Job message queue full action (JOBMSGQFL)

Specifies the action that should be taken when the job message queue is full.

### \*SYSVAL

The value specified for the QJOBMSGQFL system value is used.

### \*NOWRAP

The message queue does not wrap when it is full. This action ends the job.

### **\*WRAP**

The message queue wraps to the start of the message queue when it is full and starts filling the message queue again.

### **\*PRTWRAP**

The message queue wraps the job message queue when it is full and prints the messages that are being overlaid because of wrapping.

Top

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## **CL syntax check (SYNTAX)**

Specifies whether requests placed on the job message queue (for jobs using this job description) are checked for syntax as CL commands. When syntax checking is specified, the commands are checked for syntax as they are submitted instead of when the job is run, thus providing an earlier diagnosis of syntax errors. If checking is specified, the message severity that causes a syntax error to end processing of a job is also specified.

### **\*NOCHK**

The request data is not checked for syntax as CL commands.

**0-99** Specify the lowest message severity that can cause running of a job to end. The request data is checked for syntax as CL commands. If a syntax error occurs that is equal to or greater than the error message severity specified here, the running of the job containing the erroneous command is suppressed.

Top

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## **End severity (ENDSEV)**

Specifies the message severity level of escape messages that can cause a batch job to be ended. The batch job is ended when a request in the batch input stream results in an escape message whose severity code is equal to or greater than that specified here being sent to the request processing program QCMD or QCL. This parameter value is compared with the severity of any escape message not monitored that occurs as a result of running a noncompiled CL command in a batch job.

**30** A batch input stream request that results in an escape message whose severity is equal to or greater than 30 causes the job to end.

**0-99** Specify the message severity of an escape message that results from a request in the batch input stream and that causes the jobs that use this job description to be ended. Because escape messages typically have a maximum severity level of 50, a value of 50 or lower must be specified in order for a job to be ended as a result of an escape message. An unhandled escape message whose severity is equal to or greater than the value specified causes the job to be ended.

Top

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## **Inquiry message reply (INQMSGRPY)**

Specifies the way that inquiry messages are answered for jobs that use this job description. You can specify that inquiry messages are to be answered in the usual manner, that a default reply be issued, or that if certain conditions are met, an answer is issued to the inquiry based on those conditions. The conditions met are listed in the system reply list entries of the Add Reply List Entry (ADDRPYLE) command.

**\*RQD** A reply is required for any predefined inquiry message that is issued by a job that uses this job description.

**\*DFT** The default message reply is used to answer any predefined inquiry messages issued during running of a job that uses this job description. The default reply is either defined in the message description or is the default system reply.

**\*SYSRPYL**

The system reply list is checked to determine whether an entry matches the message identifier and optional compare value for any inquiry message issued by a job that uses this job description. If a match occurs, the reply value in that reply list entry is used. If no entry exists for that message, a reply is required.

Top

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## Hold on job queue (HOLD)

Specifies whether jobs using this job description are put on the job queue in the hold condition. A job placed on the job queue in the hold condition is held until it is released by the Release Job (RLSJOB) command, or it is ended, either by the End Job (ENDJOB) command or by the Clear Job Queue (CLRJOBQ) command.

**\*NO** Jobs that use this job description are not held when they are put on the job queue.

**\*YES** Jobs that use this job description are held when they are put on the job queue.

Top

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## Job date (DATE)

Specifies the date that is assigned to the job that uses this job description when the job is started.

**\*SYSVAL**

The value in the QDATE system value at the time the job is started is used as the job date.

*date* Specify the job date for the job being started. The format currently specified for the DATFMT job attribute must be used.

Top

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## Job switches (SWS)

Specifies the initial switch settings for a group of eight job switches used for jobs that use this job description. These switches can be set or tested in a CL program and used to control the flow of the program. The only values that are valid for each single-digit switch are 0 (off) or 1 (on).

**00000000**

The first setting for the job switches is all zeros for jobs that use this job description.

*character-value*

Specify any combination (enclosed in apostrophes if necessary) of eight 0's or 1's to change the job switch settings.

Top

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## Device recovery action (DEVRCYACN)

Specifies the recovery action to take for the job when an I/O error is encountered on the \*REQUESTOR device for interactive jobs that use this job description. This attribute is ignored for non-interactive jobs.

#### **\*SYSVAL**

The value in the system value QDEVRCYACN at the time the job is started is to be used as the device recovery action for this job description.

**\*MSG** The application program requesting the I/O operation receives an error message indicating the operation has failed.

#### **\*DSCMSG**

The job is automatically disconnected. Once the job has reconnected, it receives an error message indicating an I/O error has occurred and the device has been recovered. Even though the device has been recovered, the contents of the screen prior to the error must be displayed again.

#### **\*DSCENDRQS**

The job is automatically disconnected. Once the job has reconnected, the End Request (ENDRQS) command will be issued specifying the processor that made the previous request. If there is no request processor, an error message will be issued.

#### **\*ENDJOB**

The job is ended with the \*IMMED option. A job log is produced for the job.

#### **\*ENDJOBNOLOG**

The job is ended with the \*IMMED option. No job log is produced for the job.

Top

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## **Time slice end pool (TSEPOOL)**

Specifies whether interactive jobs are moved to another main storage pool when they reach the end of the time slice. The job is moved back to the pool in which it was originally running when a long wait occurs. This may help minimize the effect on interactive response time of other interactive jobs.

#### **\*SYSVAL**

The value of the system value QTSEPOOL at the time the job is started is to be used as the time slice end pool action for this job description.

#### **\*NONE**

The job is not moved when the end of the time slice is reached.

#### **\*BASE**

The job is moved to the base pool when the end of the time slice is reached.

Top

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## **Authority (AUT)**

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

#### **\*LIBCRTAUT**

The authority to the object is the same as the value specified on the **Create authority (CRTAUT)** parameter of the library in which the object is being created. If the value specified on the CRTAUT parameter is changed, the new value will not affect any existing objects.

#### **\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

- \*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.
- \*USE** The user can perform basic operations on the object, such as displaying its contents. The user cannot change the object. \*USE authority provides object operational authority, read authority, and execute authority.
- \*EXCLUDE**  
The user cannot access the object.
- name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Allow multiple threads (ALWMLTTHD)

Specifies whether or not the job can run with multiple user threads. This attribute does not prevent the operating system from creating system threads in the job. This job attribute is not allowed to be changed once a job starts. This attribute applies to autostart jobs, prestart jobs, batch jobs submitted from job schedule entries and jobs started using the Submit Job (SBMJOB) and Batch Job (BCHJOB) commands. This attribute is ignored when starting all other types of jobs. This attribute should be set to \*YES only in job descriptions used exclusively with functions that create multiple user threads.

- \*NO** The job cannot run with multiple user threads.
- \*YES** The job can run with multiple user threads.

Top

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## Spooled file action (SPLFACN)

Specifies whether or not spooled files are accessed through job interfaces after the job ends. Keeping spooled files with jobs allows job commands such as the Work with Submitted Jobs (WRKSBMJOB) command to work with the spooled files even after the job has ended. Detaching spooled files from jobs reduces the use of system resources by allowing job structures to be recycled when the job ends.

**\*SYSVAL**  
The value specified in the system value QSPLFACN is used.

**\*KEEP**  
When the job ends, as long as at least one spooled file for the job exists in the system auxiliary storage pool (ASP 1) or in a basic user ASP (ASPs 2-32), the spooled files are kept with the job and the status of the job is updated to indicate that the job has completed. When all remaining spooled files for the job are in independent ASPs (ASPs 33-255), the spooled files will be detached from the job and the job will be removed from the system.

**\*DETACH**  
When the job ends, the spooled files are detached from the job and the job is removed from the system.

Top

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## DDM conversation (DDMCNV)

Specifies whether the connections using distributed data management (DDM) protocols remain active when they are not being used. The connections include APPC conversations, active TCP/IP conversations or OptiConnect connections. The DDM protocols are used in Distributed Relational Database Architecture (DRDA) applications, DDM applications, or DB2 Multisystem applications. For more information on distributed data management, see the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.

### **\*KEEP**

The system keeps DDM conversation connections active when they are no longer being used, except when:

- The routing step ends on the source system.
- There is an explicit request that conversations be disconnected, using the Reclaim DDM Conversations (RCLDDMCNV) command or the Reclaim Resources (RCLRSC) command.
- There is a communications failure or internal failure.
- A DRDA connection to an application server not running on the System i ends.

### **\*DROP**

The system ends a DDM-allocated conversation when it is no longer being used. Examples include when an application closes a DDM file, or when a DRDA application runs an SQL DISCONNECT statement.

Top

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## Examples

### **Example 1: Creating a Job Description for Interactive Jobs**

```
CRTJOB  JOB  (INT4)  USER(*RQD)  RTGDTA(QCMDI)
        INQMSGRPY(*SYSRPLY)
        TEXT('Interactive #4 JOB  for Department 127')
```

This command creates a job description named INT4 in the user's current library. This job description is for interactive jobs and is used by Department 127. When you sign on, you must type your password. The characters QCMDI are used as routing data that is compared with the routing table of the subsystem where the job is run. All inquiry messages are compared to the entries in the system reply list to determine whether a reply is issued automatically.

### **Example 2: Creating a Job Description for Jobs on a Specified Queue**

```
CRTJOB  JOB  (BATCH3)  USER(*RQD)  JOBQ(NIGHTQ)  JOBPTY(4)
        OUTPTY(4)  ACGCDE(NIGHTQ012345)  RTGDTA(QCMDB)
        TEXT('Batch #3 JOB  for high priority night work')
```

This command creates a job description named BATCH3 in the user's current library. The jobs using this description are placed on the job queue NIGHTQ. The priority for jobs using this description and their spooled output is 4. QCMDB is the routing data that is compared with entries in the routing table of the subsystem where the job runs. The accounting code of NIGHTQ012345 is used when recording accounting statistics for jobs that use this job description.

### **Example 3: Specifying Request Data**

```
CRTJOB  JOB  (PAYWK)  USER(QPGMR)  RTGDTA(QCMDB)
        RQSDTA('CALL PAY025 PARM(WEEKLY UNION)')
```

This command creates a job description named PAYWK in the user's current library. Jobs using this job description run under the IBM-supplied user profile for the programmer, QPGMR, and use the accounting code found in that user profile. If the job is started via the SBMJOB command, the accounting code of the person submitting the command is automatically used. The routing data QCMDB is compared with entries in the routing table of the subsystem where the job is run. The request data passed to the command processing program is a CALL command that names the application program that is run and passes a parameter to it.

[Top](#)

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## Error messages

### \*ESCAPE Messages

#### CPF1621

Job description &1 not created in library &2.

[Top](#)





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## Create Job Queue (CRTJOBQ)

Where allowed to run: All environments (\*ALL)  
Threadsafe: No

Parameters  
Examples  
Error messages

The Create Job Queue (CRTJOBQ) command creates a new job queue. A job queue contains entries for jobs that are waiting to be processed by the system. Jobs can be placed on a job queue by using any of the following commands:

- Start Database Reader (STRDBRDR)
- Start Diskette Reader (STRDKTRDR)
- Start Printer Writer (STRPRTWTR)
- Start Diskette Writer (STRDKTWTR)
- Submit Job (SBMJOB)
- Submit Database Jobs (SBMDBJOB)
- Submit Diskette Jobs (SBMDKTJOB)
- Transfer Job (TFRJOB)

After you create a new job queue, you must add an entry for it in the appropriate subsystem description. To do this use the Add Job Queue Entry (ADDJOBQE) command.

Top

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### Parameters

Keyword	Description	Choices	Notes
JOBQ	Job queue	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Job queue	<i>Name</i>	
	Qualifier 2: Library	<i>Name, *CURLIB</i>	
TEXT	Text 'description'	<i>Character value, *BLANK</i>	Optional
OPRCTL	Operator controlled	<i>*YES, *NO</i>	Optional, Positional 2
AUTCHK	Authority to check	<i>*OWNER, *DTAAUT</i>	Optional
AUT	Authority	<i>Name, *USE, *ALL, *CHANGE, *EXCLUDE, *LIBCRTAUT</i>	Optional

Top

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### Job queue (JOBQ)

Specifies the job queue being created.

This is a required parameter.

#### Qualifier 1: Job queue

*name* Specify the name you want for the job queue being created.

#### Qualifier 2: Library

### **\*CURLIB**

The current library for the job is used to locate the job queue. If no current library entry exists in the library list, QGPL is used.

*name* Specify the name of library where the job queue is to be located.

**Note:** The temporary library QTEMP is not a valid library name. Job queues must be in permanent libraries.

Top

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## **Text 'description' (TEXT)**

Specifies the text that briefly describes the object.

### **\*BLANK**

No text is specified.

*'description'*

Specify no more than 50 characters, enclosed in apostrophes.

Top

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## **Operator controlled (OPRCTL)**

Specifies whether a user who has job control authority is allowed to control this job queue.

**\*YES** A user with job control authority can control the queue.

**\*NO** This queue cannot be controlled by users with job control authority unless they also have some other special authority.

Top

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## **Authority to check (AUTCHK)**

Specifies what type of authorities to the job queue allow the user to control the job queue by holding or releasing the queue. Users with some special authority may also be able to control the job queue.

### **\*OWNER**

The requester must have ownership authority to the job queue to pass the job queue authorization test. The requester can have ownership authority by being the owner of the job queue, sharing a group profile with the job queue owner, or running a program that adopts the job queue owner's authority.

### **\*DTAAUT**

Any user with add, read, and delete authority to the job queue can control the queue.

Top

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## **Authority (AUT)**

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

**\*USE** Use authority allows the user to perform basic operations on the job queue, such as submit jobs to this queue.

### \*CHANGE

Change authority allows the user to control jobs submitted by other users if \*DTAAUT was specified on the **Authority to check (AUTCHK)** parameter.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

### \*EXCLUDE

The user cannot access the object.

### \*LIBCRTAUT

The authority for the object is the same as the value specified on the **Create authority (CRTAUT)** parameter of the library in which the object is being created. If the value specified on the CRTAUT parameter is changed, the new value will not affect any existing objects.

*name* Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

```
CRTJOBQ JOBQ(DEPTA) AUT(*EXCLUDE)
        TEXT('Special queue for Dept A jobs')
```

This command creates a job queue named DEPTA and puts it in the current library. Because AUT(\*EXCLUDE) is specified and OPRCTL(\*YES) is assumed, the job queue is used and controlled only by the user who created the queue and by users with job control authority (\*JOBCTL). Also, users with spool control authority (\*SPLCTL) can control the queue.

Top

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## Error messages

### \*ESCAPE Messages

#### CPF2182

Not authorized to library &1.

#### CPF2192

Object &1 cannot be created into library &3.

#### CPF2207

Not authorized to use object &1 in library &3 type \*&2.

#### CPF3323

Job queue &1 in &2 already exists.

#### CPF3351

Temporary library &1 invalid for job queue &2.

#### CPF3354

Library &1 not found.

#### CPF3356

Cannot allocate library &1.

**CPF3371**

Spool user profile QSPL damaged or not found.

**CPF9818**

Object &2 in library &3 not created.

[Top](#)

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## Create Journal (CRTJRN)

Where allowed to run: All environments (\*ALL)  
Threadsafe: Yes

Parameters  
Examples  
Error messages

The Create Journal (CRTJRN) command creates a journal as a local journal with the specified attributes, and attaches the specified journal receiver to the journal. Once a journal is created, object changes can be journaled to it or user entries can be sent to it. The journal state of the created journal is \*ACTIVE.

### Restrictions:

- A journal cannot be created in the library QTEMP.
- The receiver specified must be created before issuing this command and it must be empty (that is, the receiver must not have been previously attached to a journal or have been in the process of being attached to a journal).
- This command cannot be used to create a remote journal. See the ADDRMTJRN (Add Remote Journal) command description or the Add Remote Journal (QjoAddRemoteJournal) API in the APIs topic collection in the Programming category in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.
- If one of the \*MAXOPT values from the RCVSIZOPT parameter is not to be in effect for the journal, the maximum threshold value that can be specified for any journal receiver being attached is 1,919,999 kilobytes.
- If the library to contain the journal is on an independent ASP then the journal receiver specified must be located on an independent ASP that is in the same ASP group as the journal's library. Likewise, if the library to contain the journal is not on an independent ASP, then the journal receiver specified cannot be located on an independent ASP.
- If the library to contain the journal is on an independent ASP then ASP(\*LIBASP) must be specified.
- RCVSIZOPT(\*MINFIXLEN) and FIXLENDTA cannot be used for the system security audit journal QSYS/QAUDJRN. Journal entries in the security audit journal are required to contain all possible data that could be used for auditing purposes.
- JRNOBJLMT(\*MAX10M) is only valid if one of the \*MAXOPT values was specified for the RCVSIZOPT parameter.
- JRNOBJLMT(\*MAX10M), once specified for a journal, cannot be changed.

Top

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## Parameters

Keyword	Description	Choices	Notes
JRN	Journal	<i>Qualified object name</i>	Required, Positional 1
	Qualifier 1: Journal	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , * <u>CURLIB</u>	
JRNRCV	Journal receiver	Values (up to 2 repetitions): <i>Qualified object name</i>	Required, Positional 2
	Qualifier 1: Journal receiver	<i>Name</i>	
	Qualifier 2: Library	<i>Name</i> , * <u>LIBL</u> , * <u>CURLIB</u>	
ASP	ASP number	1-32, * <u>LIBASP</u>	Optional

Keyword	Description	Choices	Notes
MSGQ	Journal message queue	<i>Qualified object name</i>	Optional
	Qualifier 1: Journal message queue	<i>Name, <u>QSYSOPR</u></i>	
	Qualifier 2: Library	<i>Name, *<u>LIBL</u>, *CURLIB</i>	
MNGRCV	Manage receivers	<b>*SYSTEM, *USER</b>	Optional
DLTRCV	Delete receivers	<b>*NO, *YES</b>	Optional
RCVSIZEOPT	Receiver size options	Single values: <b>*SYSDFT, *NONE</b> Other values (up to 3 repetitions): *RMVINTENT, *MINFIXLEN, *MAXOPT1, *MAXOPT2, *MAXOPT3	Optional
MINENTDTA	Minimize entry specific data	Single values: <b>*NONE</b> Other values (up to 2 repetitions): *FILE, *FLDBDY, *DTAARA	Optional
JRNCACHE	Journal caching	<b>*NO, *YES</b>	Optional
MNGRCVDLY	Manage receiver delay time	1-1440, <b><u>10</u></b>	Optional
DLTRCVDLY	Delete receiver delay time	1-1440, <b><u>10</u></b>	Optional
FIXLENDTA	Fixed length data	Single values: <b>*JOBUSRPGM</b> Other values (up to 9 repetitions): *JOB, *USR, *PGM, *PGMLIB, *SYSSEQ, *RMTADR, *THD, *LUW, *XID	Optional
JRNOBJLMT	Journal object limit	<b>*MAX250K, *MAX10M</b>	Optional
TEXT	Text 'description'	<i>Character value, *<u>BLANK</u></i>	Optional
AUT	Authority	<i>Name, *<u>LIBCRTAUT</u>, *CHANGE, *ALL, *USE, *EXCLUDE</i>	Optional

Top

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## Journal (JRN)

Specifies the qualified name of the journal to be created.

This is a required parameter.

### Qualifier 1: Journal

*journal-name*

Specify the name of the journal that is being created.

### Qualifier 2: Library

**\*CURLIB**

The journal is created in the current library for the job. If no library is specified as the current library for the job, QGPL is used.

*library-name*

Specify the library where the journal is to be created.

Top

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## Journal receiver (JRNRCV)

Specifies the journal receiver to be attached to the specified journal.

Up to 2 journal receivers can be specified, but the second journal receiver is ignored.

This is a required parameter.

### Qualifier 1: Journal receiver

#### *receiver-name*

Specify the name of the journal receiver.

The journal receiver must not have been previously attached to a journal or have been in the process of being attached to a journal.

### Qualifier 2: Library

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

**\*CURLIB**

The current library for the job is searched. If no library is specified as the current library for the job, the QGPL library is used.

#### *library-name*

Specify the name of the library to be searched.

Top

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## ASP number (ASP)

Specifies the auxiliary storage pool (ASP) from which the system allocates storage for the journal.

#### **\*LIBASP**

The storage space for the journal is allocated from the same auxiliary storage pool as the storage space of the journal's library. Use this value if you want the journal in an independent user ASP.

#### *ASP-identifier*

Specify a value ranging from 1 through 32 to specify the identifier of the ASP from which to have the storage space of the journal allocated. Valid values depend on how ASPs are defined on the system. Specify an ASP number only if you want to place the journal in a basic non-library user ASP.

**Note:** The value of 1 is the system ASP, any other value indicates a user ASP.

Top

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## Journal message queue (MSGQ)

Specifies the qualified name of the message queue associated with this journal. A message is sent to this queue when one of the following occurs:

- When an attached journal receiver's threshold is surpassed, the message CPF7099 is sent if the journal has the MNGRCV(\*USER) attribute.
- When an attached journal receiver's threshold is surpassed, the system attempts to create and attach a new receiver if the journal has the MNGRCV(\*SYSTEM) attribute. When the old receiver is detached, the message CPF7020 is sent. If the attempt fails due to lock conflicts, the system sends the message

CPI70E5 and then tries again every ten minutes (or as often as requested via the MNGRCVDLY parameter) until the change journal operation is successful. If the change journal fails for any other reason, message CPI70E3 is sent.

- When a journal receiver's sequence number exceeds 2,147,000,000, the message CPI70E7 is sent. If the journal receiver was attached while RCVSIZOPT(\*MAXOPT1 or \*MAXOPT2) was in effect for the journal, message CPI70E7 is sent when the sequence number exceeds 9,900,000,000. If the journal receiver was attached while RCVSIZOPT(\*MAXOPT3) was in effect for the journal, message CPI70E7 is sent when the sequence number exceeds 18,446,644,000,000,000,000.
- When the system cannot determine if the journal has the MNGRCV(\*SYSTEM) attribute, or if the attempt to create and attach a new journal receiver fails because of something other than a lock conflict, the message CPI70E3 is sent.
- When remote journal operations occur, see the Journal management topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/>.
- When the system cannot delete a receiver due to a lock conflict, an exit program indicating that the receiver cannot be deleted, or the receiver is not yet fully replicated to all remote journals, CPI70E6 is sent and the operation will be retried every 10 minutes (or as often as requested via the DLTRCVDLY parameter). If a delete fails for any other reason, CPI70E1 is sent.

To set the threshold value, refer to the Create Journal Receiver (CRTJRNRCV) or the Change Journal (CHGJRN) command descriptions.

**Note:** A message queue that is in the library QTEMP cannot be specified on this parameter.

**Note:** Some messages that are sent to the journal message queue will also be sent to the QSYSOPR message queue and QHST.

### **QSYSOPR**

The message is sent to the QSYSOPR message queue.

#### *journal-message-queue*

Specify the name of the message queue to which the journal messages are sent. If this message queue is not available when a message is to be sent, the message is sent to the QSYSOPR message queue.

**\*LIBL** All libraries in the library list for the current thread are searched until the first match is found.

#### **\*CURLIB**

The current library for the job is used to locate the journal message queue. If no library is specified as the current library for the job, QGPL is used.

#### *library-name*

Specify the library where the journal message queue is located.

Top

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## **Manage receivers (MNGRCV)**

Specifies how the changing of journal receivers (detaching the currently attached journal receiver and attaching a new journal receiver) is managed.

### **\*SYSTEM**

The system manages the changing of journal receivers (this function is called system change-journal management). When an attached journal receiver reaches its size threshold, the system detaches the attached journal receiver and creates and attaches a new journal receiver. Message CPF7020 is sent to the journal message queue when the journal receiver is detached.

Also, if the journal receiver was attached while RCVSIZOPT(\*MAXOPT1 or \*MAXOPT2) was in effect for the journal, the system attempts to perform a CHGJRN command to reset the sequence



number when the journal receiver's sequence number exceeds 9,900,000,000. If the journal receiver was attached while RCVSIZOPT(\*MAXOPT3) was in effect for the journal, the system attempts to perform a CHGJRN command to reset the sequence number when the journal receiver's sequence number exceeds 18,446,644,000,000,000. For all other journal receivers, the system attempts this CHGJRN when the sequence number exceeds 2,147,000,000.

Additionally, during an initial program load (IPL) or the vary on of an independent ASP, the system performs a CHGJRN command to create and attach a new journal receiver and to reset the journal sequence number of journals that are not needed for commitment control recovery for that IPL or vary on, unless the RCVSIZOPT is \*MAXOPT3. The sequence number will not be reset and a new journal receiver will not be attached if the RCVSIZOPT is \*MAXOPT3 unless the sequence number exceeds the sequence number threshold which is 18,446,600,000,000,000.

**Notes:**

1. The journal receiver threshold value must be specified with a value other than \*NONE before this value is specified.
2. Specifying MNGRCV(\*SYSTEM) does not prevent you from using the CHGJRN command to manage journal receivers.
3. The sequence number will also not be reset if there are only a couple of journal entries.

**\*USER**

The user manages the changing of journal receivers by issuing the Change Journal (CHGJRN) command to attach a new receiver and detach the old receiver.

Top

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## Delete receivers (DLTRCV)

Specifies whether the system deletes journal receivers when they are no longer needed or leaves them on the system for the user to delete after they have been detached by system change-journal management or by a user-issued CHGJRN command.

**Note:** This parameter can be specified only if MNGRCV(\*SYSTEM) is specified.

**\*NO** The journal receivers are not deleted by the system.

**\*YES** The journal receivers are deleted by the system.

When the journal has the DLTRCV(\*YES) attribute, the following conditions can prevent the system from deleting the receiver. When one of these conditions occurs, the system sends message CPI70E6 and then retries the delete operation every 10 minutes (or as often as requested via the DLTRCVDLY parameter) until the operation is successful.

- A lock conflict occurs for either the journal receiver or its journal.
- An exit program that was registered by way of the QIBM\_QJO\_DLT\_JRNRCV exit point indicates that a receiver is not eligible for deletion.
- A journal has remote journals associated with it and one or more of the associated remote journals do not yet have full copies of this receiver.

Top

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## Receiver size options (RCVSIZOPT)

Specifies the options that affect the size of the receiver attached to the journal.

### Single values

### **\*SYSDFT**

The system uses the current recommended values. Specifying this value is currently equivalent to specifying \*MAXOPT2 and \*RMVINTENT.

### **\*NONE**

No options affect the size of the journal entries attached to the receiver. All journal entries placed on the receiver are permanent. The fixed length data as defined by FIXLENDTA will be included in every journal entry deposited into the attached journal receiver. If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately 2 gigabytes (2,147,483,647) and a maximum sequence number of 2,147,483,136. Additionally, the maximum size of the journal entry which can be deposited is 15,761,440 bytes.

### **Other values (up to 3 repetitions)**

#### **\*RMVINTENT**

The size of the receiver attached to the journal is reduced by automatic removal of the internal entries required only for initial program load (IPL) or independent ASP vary on recovery when these entries are no longer required.

#### **\*MINFIXLEN**

The size of the journal entries that are deposited into the attached journal receiver is reduced by the automatic removal of fixed-length data that is deemed not to be required for recovery purposes. This option is not valid when FIXLENDTA is also specified.

#### **\*MAXOPT1**

If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately one terabyte (1,099,511,627,776 bytes) and a maximum sequence number of 9,999,999,999. Additionally, the maximum size of the journal entry which can be deposited is 15,761,440 bytes. This value cannot be specified if \*MAXOPT2 or \*MAXOPT3 is specified.

#### **\*MAXOPT2**

If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately one terabyte (1,099,511,627,776 bytes) and a maximum sequence number of 9,999,999,999. Additionally, the maximum size of the journal entry which can be deposited is 4,000,000,000 bytes. This value cannot be specified if \*MAXOPT1 or \*MAXOPT3 is specified.

#### **\*MAXOPT3**

If this is specified for the journal, the journal receiver attached to that journal can have a maximum receiver size of approximately one terabyte (1,099,511,627,776 bytes) and a maximum sequence number of 18,446,744,073,709,551,600. Additionally, the maximum size of the journal entry which can be deposited is 4,000,000,000 bytes. These journal receivers cannot be saved and restored to any releases prior to V5R3M0 nor can they be replicated to any remote journals on any systems at releases prior to V5R3M0. Also, during an initial program load (IPL) or the vary on of an independent ASP, when MNGRCV(\*SYSTEM) is specified, the system will not automatically perform a CHGJRN command to create and attach a new journal receiver and reset the journal sequence number unless the sequence number exceeds the sequence number threshold which is 18,446,600,000,000,000. This value cannot be specified if \*MAXOPT1 or \*MAXOPT2 is specified.

Top

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## **Minimize entry specific data (MINENTDTA)**

Specifies which object types allow journal entries to have minimized entry specific data.

Journal receivers using the \*FLDBDY option to minimize the entry specific data cannot be saved and restored to any release prior to V5R4M0 nor can they be replicated to any remote journal on a system at a release prior to V5R4M0. See the Journal management topic collection in the i5/OS Information Center at <http://www.ibm.com/systems/i/infocenter/> for restrictions and usage of journal entries with minimized entry specific data.

**\*NONE**

No object type allows a journal entry with minimized entry specific data. Journal entries for all journaled objects will be deposited in the journal with complete entry specific data.

**\*FILE** Journaled files may have journal entries deposited with minimized entry specific data. The minimizing will not occur on field boundaries. Therefore, the entry specific data may not be viewable and may not be used for auditing purposes. This value cannot be specified if \*FLDBDY is specified.

**\*FLDBDY**

Journaled files may have journal entries deposited with minimized entry specific data. The minimizing for journaled files will occur on field boundaries. Therefore, the entry specific data will be viewable and may be used for auditing purposes

**\*DTAARA**

Journaled data areas may have journal entries deposited with minimized entry specific data.

Top

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## Journal caching (JRNCACHE)

Specifies whether journal entries will be cached before being written out to disk.

**\*NO** Journal entries are written to disk immediately if needed to assure single-system recovery.

**\*YES** Journal entries are written to main memory. When there are several journal entries in main memory, then the journal entries are written from main memory to disk. If the application performs large numbers of changes, this may result in fewer synchronous disk writes resulting in improved performance. However, it is **not** recommended to use this option if it is unacceptable to lose even one recent change in the event of a system failure where the contents of main memory are not preserved. This type of journaling is directed primarily toward batch jobs and may not be suitable for interactive applications where single system recovery is the primary reason for journaling.

**Note:** Applications using commitment control will likely see less performance improvement because commitment control already performs some journal caching.

**Note:** Entries that are in the cache are not displayable using the Display Journal (DSPJRN) command, Receive Journal Entries (RCVJRNE) command, Retrieve Journal Entries (RTVJRNE) command, or the QjoRetrieveJournalEntries API. Also, entries that are in the cache are not sent to a target system with remote journal. However, these journal entries are included in the last journal sequence number for the journal receiver returned via the Display Journal Receiver Attributes (DSPJRNRCVA) command or QjoRtvJrneReceiverInformation API.

**Note:** This value cannot be specified if the journal-name starts with a Q and the journal-library starts with a Q, unless the library is QGPL.

Top

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## Manage receiver delay time (MNGRCVDLY)

Specifies the time (in minutes) to be used to delay the next attempt to attach a new journal receiver to this journal if the journal is system managed (MNGRCV(\*SYSTEM)).

- 10** When the system cannot allocate an object needed to attach a new journal receiver to this journal, it will wait 10 minutes before trying again.
- 1-1440** When the system cannot allocate an object needed to attach a new journal receiver to this journal, it will wait the specified number of minutes before trying again.

Top

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## Delete receiver delay time (DLTRCVDLY)

If the system cannot allocate an object needed to delete a journal receiver associated with this journal and the journal has DLTRCV(\*YES) specified, this parameter specifies the time (in minutes) to be used to delay the next attempt to delete the journal receiver.

- 10** System waits 10 minutes before trying again.
- 1-1440** System waits the specified number of minutes before trying again.

Top

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## Fixed length data (FIXLENDTA)

Specifies the data that is included in the fixed-length portion of the journal entries that are deposited into the attached journal receiver. This parameter is not valid when RCVSIZOPT(\*MINFIXLEN) is also specified.

### \*SAME

The value does not change.

### \*JOBUSRPGM

The job name, user name and program name will be included in the journal entries deposited into the attached journal receiver.

- \*JOB** The job name will be included in the journal entries deposited into the attached journal receiver.
- \*USR** The effective user profile name will be included in the journal entries deposited into the attached journal receiver.
- \*PGM** The program name will be included in the journal entries deposited into the attached journal receiver.

### \*PGMLIB

The program library name and the auxiliary storage pool device name that contains the program library will be included in the journal entries deposited into the attached journal receiver.

### \*SYSSEQ

The system sequence number will be included in the journal entries deposited into the attached journal receiver. The system sequence number gives a relative sequence to all journal entries in all journal receivers on the system.

### \*RMTADR

If appropriate, the remote address, the address family and the remote port will be included in the journal entries deposited into the attached journal receiver.

- \*THD** The thread identifier will be included in the journal entries deposited into the attached journal receiver. The thread identifier helps distinguish between multiple threads running in the same job.

- \*LUW** If appropriate, the logical unit of work identifier will be included in the journal entries deposited into the attached journal receiver. The logical unit of work identifies work related to specific commit cycles.

\*XID If appropriate, the transaction identifier will be included in the journal entries deposited into the attached journal receiver. The transaction identifier identifies transactions related to specific commit cycles.

Top

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## Journal object limit (JRNOBJLMT)

Specifies the option that affects the maximum number of objects that can be journaled to the journal.

### \*MAX250K

The maximum number of objects that can be journaled to the journal is 250,000.

### \*MAX10M

The maximum number of objects that can be journaled to the journal is 10,000,000. Any journal receivers associated with such a journal cannot be saved or restored to any releases prior to V5R4M0 nor can they be replicated via remote journaling to any releases prior to V5R4M0.

Once this value is specified for the journal, the JRNOBJLMT cannot be set to the lower limit.

Runtime performance concerns should be considered when choosing this option. With this new attribute, there is an opportunity for a greater number of objects journaled to one journal. Thus there is a potential opportunity of more objects that can be actively changing at the same time which can affect journal runtime performance. Therefore if the frequency of journal entries being deposited to this one journal is causing runtime performance concerns, then a better alternative would be to split the journaled objects to more than one journal.

Be aware that increasing the quantity of objects associated with a single journal may increase your IPL time, independent ASP vary on time, or disaster recovery time. As a general rule-of-thumb, if the number of actively changing objects is likely to be greater than 5,000 consider journaling some of these objects to a separate journal. The larger the number of actively changing objects for a given journal at system termination, the longer it will take to recover the journal at IPL or vary on of an independent ASP.

Top

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## Text 'description' (TEXT)

Specifies the text that briefly describes the object.

### \*BLANK

No text is specified.

### 'description'

Specify no more than 50 characters of text, enclosed in apostrophes.

Top

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## Authority (AUT)

Specifies the authority you are giving to users who do not have specific authority for the object, who are not on an authorization list, and whose group profile or supplemental group profiles do not have specific authority for the object.

### \*LIBCRTAUT

The system determines the authority for the object by using the value specified for the **Create authority (CRTAUT)** parameter on the Create Library command (CRTLIB) for the library

containing the object to be created. If the value specified for the CRTAUT parameter is changed, the new value will not affect any existing objects.

**\*CHANGE**

The user can perform all operations on the object except those limited to the owner or controlled by object existence (\*OBJEXIST) and object management (\*OBJMGT) authorities. The user can change and perform basic functions on the object. \*CHANGE authority provides object operational (\*OBJOPR) authority and all data authority. If the object is an authorization list, the user cannot add, change, or remove users.

**\*ALL** The user can perform all operations except those limited to the owner or controlled by authorization list management (\*AUTLMGT) authority. The user can control the object's existence, specify the security for the object, change the object, and perform basic functions on the object. The user also can change ownership of the object.

**\*USE** The user can perform basic operations on the object, such as running a program or reading a file. The user cannot change the object. Use (\*USE) authority provides object operational (\*OBJOPR), read (\*READ), and execute (\*EXECUTE) authorities.

**\*EXCLUDE**

The user cannot access the object.

**name** Specify the name of an authorization list to be used for authority to the object. Users included in the authorization list are granted authority to the object as specified in the list. The authorization list must exist when the object is created.

Top

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## Examples

### Example 1: Creating a Journal to Use Auxiliary Storage Pool

```
CRTJRN JRN(MYLIB/JRNLA) JRNRCV(MYLIB/RCV01) ASP(3)
```

This command creates a journal named JRNLA in library MYLIB. Storage space for the journal is allocated from user auxiliary storage pool (ASP) 3. Journal receiver RCV01 in library MYLIB is attached to journal JRNLA. The public authority for the journal is taken from the CRTAUT parameter for library MYLIB.

### Example 2: Creating a Journal with a Larger Object Limit

```
CRTJRN JRN(YOURLIB/JRNLB) JRNRCV(YOURLIB/RCV01)
RCVSIZOPT(*MAXOPT3 *RMVINTENT)
JRNBJLMT(*MAX10M)
```

This command creates a journal named JRNLB in library YOURLIB that will allow up to 10,000,000 objects to be journaled to it. Journal receiver RCV01 in library YOURLIB is attached to journal JRNLB. The public authority for the journal is taken from the CRTAUT parameter for library YOURLIB. Using the larger journal object limit requires that one of the values of maximum options for the receiver size option parameter be specified. In this case, \*MAXOPT3 was chosen for the receiver size option parameter. This will allow the journal receiver to grow to approximately one terabyte, the sequence number to reach 18,446,744,073,709,551,600 and a maximum journal entry size of 4,000,000,000 bytes. Entries needed solely for recovery purposes will be removed when they are no longer needed by the system.

Top

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## Error messages

### \*ESCAPE Messages

**CPF70A0**

FIXLENDTA parameter not allowed.

**CPF70A1**

FIXLENDTA parameter not allowed with RCVSIZOPT(\*MINFIXLEN).

**CPF70B5**

JRNOBJLMT(&1) not allowed.

**CPF70B8**

MINENTDTA values specified not allowed.

**CPF70E0**

Operation on &1 not allowed.

**CPF70E2**

DLTRCV(\*YES) not allowed.

**CPF70E5**

RCVSIZOPT values specified not allowed.

**CPF70F1**

Journal receiver threshold too big for journal.

**CPF70F5**

Receiver threshold value is not valid.

**CPF7003**

Entry not journaled to journal &1. Reason code &3.

**CPF701A**

Journal receiver not eligible for operation.

**CPF7010**

Object &1 in &2 type \*&3 already exists.

**CPF7011**

Not enough storage or resources.

**CPF7012**

Auxiliary storage pool &4 not found for object &1.

**CPF7015**

Error on JRNRCV specifications.

**CPF7017**

Library QTEMP not valid for message queue parameter.

**CPF704E**

RCVSIZOPT(\*MINFIXLEN) not allowed.

**CPF708A**

Journal QAUDJRN in QSYS not created or restored.

**CPF708D**

Journal receiver found logically damaged.

**CPF708E**

Journal receiver not allowed with \*MAXOPT1 or \*MAXOPT2 or \*MAXOPT3.

**CPF709F**

Start of journal caching not allowed. Reason code &3.

**CPF9801**  
Object &2 in library &3 not found.

**CPF9802**  
Not authorized to object &2 in &3.

**CPF9803**  
Cannot allocate object &2 in library &3.

**CPF9806**  
Cannot perform function for object &2 in library &3.

**CPF9810**  
Library &1 not found.

**CPF9820**  
Not authorized to use library &1.

**CPF9825**  
Not authorized to device &1.

**CPF9830**  
Cannot assign library &1.

**CPF9839**  
Object &1 not created.

**CPF9840**  
Object &1 not created.

**CPF9873**  
ASP status is preventing access to object.

**CPF9875**  
Resources exceeded on ASP &1.

Top



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