

Interactive System Productivity Facility (ISPF)



Reference Summary

z/OS Version 1 Release 7.0

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Note

Before using this document, read the general information under "Notices" on page 175.

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This edition applies to ISPF for Version 1 Release 7.0 of the licensed program z/OS (program number 5694-A01) and to all subsequent releases and modifications until otherwise indicated in new editions.

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Preface

This document is a quick reference for application developers and library administrators who use various components of the ISPF product.

Chapter 1 contains general information about ISPF.

Chapters 2 through 4 contain the syntax and return codes for the following:

- ISPF services
- Edit macro commands
- SCLM services and macros.

This document also contains tables of ISPF system variables and dialog variables (Chapters 5 and 6) and a summary of the Dialog Tag Language (DTL) tags for ISPF (Chapter 7).

Information in this document was extracted from the following prerequisite books:

- *z/OS ISPF Dialog Developer's Guide and Reference*
- *z/OS ISPF User's Guide Vol I*
- *z/OS ISPF User's Guide Vol II*
- *z/OS ISPF Services Guide*
- *z/OS ISPF Edit and Edit Macros*
- *z/OS ISPF Software Configuration and Library Manager Reference*
- *z/OS ISPF Dialog Tag Language Guide and Reference*

Who should use this document

This document is for:

- Application programmers who write programs or command procedures that invoke ISPF services.
- Application programmers who use the ISPF editor and edit macros.
- Library administrators who use library management facilities.

Using LookAt to look up message explanations

LookAt is an online facility that lets you look up explanations for most of the IBM® messages you encounter, as well as for some system abends and codes. Using LookAt to find information is faster than a conventional search because in most cases LookAt goes directly to the message explanation.

You can use LookAt from these locations to find IBM message explanations for z/OS® elements and features, z/VM®, VSE/ESA™, and Clusters for AIX® and Linux™:

- The Internet. You can access IBM message explanations directly from the LookAt Web site at <http://www.ibm.com/servers/eserver/zseries/zos/bkserv/lookat/>.
- Your z/OS TSO/E host system. You can install code on your z/OS or z/OS.e systems to access IBM message explanations using LookAt from a TSO/E command line (for example: TSO/E prompt, ISPF, or z/OS UNIX® System Services).

- Your Microsoft® Windows® workstation. You can install LookAt directly from the *z/OS Collection* (SK3T-4269) or the *z/OS and Software Products DVD Collection* (SK3T4271) and use it from the resulting Windows graphical user interface (GUI). The command prompt (also known as the DOS > command line) version can still be used from the directory in which you install the Windows version of LookAt.
- Your wireless handheld device. You can use the LookAt Mobile Edition from <http://www.ibm.com/servers/eserver/zseries/zos/bkserv/lookat/lookatm.html> with a handheld device that has wireless access and an Internet browser (for example: Internet Explorer for Pocket PCs, Blazer or Eudora for Palm OS, or Opera for Linux handheld devices).

You can obtain code to install LookAt on your host system or Microsoft Windows workstation from:

- A CD-ROM in the *z/OS Collection* (SK3T-4269).
- The *z/OS and Software Products DVD Collection* (SK3T4271).
- The LookAt Web site (click **Download** and then select the platform, release, collection, and location that suit your needs). More information is available in the LOOKAT.ME files available during the download process.

Using IBM Health Checker for z/OS

IBM Health Checker for z/OS is a z/OS component that installations can use to gather information about their system environment and system parameters to help identify potential configuration problems before they impact availability or cause outages. Individual products, z/OS components, or ISV software can provide checks that take advantage of the IBM Health Checker for z/OS framework. This book refers to checks or messages associated with this component.

For additional information about checks and about IBM Health Checker for z/OS, see *IBM Health Checker for z/OS and Sysplex: User's Guide*. z/OS V1R4, V1R5, and V1R6 users can obtain the IBM Health Checker for z/OS from the z/OS

Downloads page at

<http://www.ibm.com/servers/eserver/zseries/zos/downloads/>.

SDSF also provides functions to simplify the management of checks. See *z/OS SDSF Operation and Customization* for additional information.

Chapter 1. ISPF General Information

Invoking an ISPF Application

```
ISPSTART
{PANEL(panel-name) [OPT(option)][ADDPop]}
{CMD(command parm1 parm2) [LANG(APL|CREX)]}
{PGM(program-name) [PARM(parameters)]}
{WSCMD(workstation-command)
  [MODAL|MODELESS]
  [WSDIR(dir)]
  [MAX|MIN]
  [VIS|INVIS]}
{WSCMDV(var_name)
  [MODAL|MODELESS]
  [WSDIR(dir)]
  [MAX|MIN]
  [VIS|INVIS]}
[GUI(LU:address:tpname | IP:address:port |,FI:) |,NOGUIDSP)] [TITLE(title)]
[GUISCRW(screen-width)]
[GUISCRD(screen-depth)]
[FRAME(STD|FIX|DLG)]
[CODEPAGE(codepage)] [CHARSET(character_set)]
[BKGRND(STD|DLG)]
[NEWAPPL[(application-id)]]
[SCRNAME(screen-name)]
[TEST|TESTX|TRACE|TRACEX]
[NOLOGO|LOGO(logo-panel-name)]
[BATSCRW(screen-width)]
[BATSCRD(screen-depth)]
[BDISPMAX(max-number-of-displays)]
[BREDIMAX(max-number-of-redisplays)]
[BDBCS]
[DANISH|ENGLISH|GERMAN|JAPANESE|PORTUGUE|SPANISH|KOREAN|
FRENCH|ITALIAN|CHINESE|CHINESE|SGERMAN|UPPERENG]
```

Figure 1. ISPSTART Command

Invoking the ISPF Conversion Utility

ISPD TLC (for interactive interface)

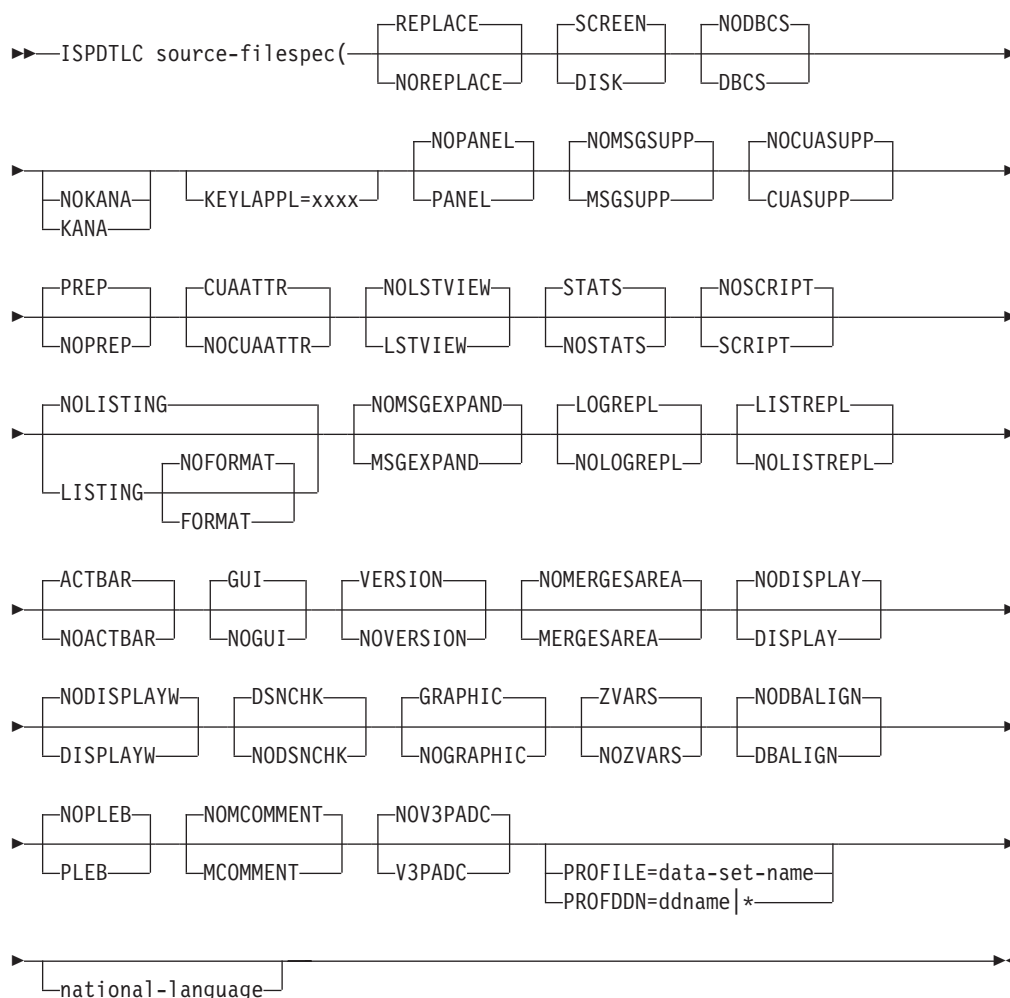
OR

ISPD TLC ? (for help information)

OR

(command syntax)

ISPF General Information



ISPF System Information

Files Used by ISPF

Note: Files used by a given invocation of ISPF must be allocated before ISPF is invoked.

DDNAME(lib-type)	Description
ISPFIL	File tailoring output
ISPILIB	Image library
ISPM LIB	Message
ISPP LIB	Panel
ISPPROF	User profile
ISPSLIB	Skeleton
ISPTABLE	Table output
ISPTLIB	Table input
SYSPROC	REXX/CLIST library
SYSEXEC	REXX library

ISPF System Commands

ACTIONS

BACKWARD
BOTTOMCANCEL
CMDE
COLOR
CRETRIEV
CUAATTR
CURSORDOWN
DDLST
DSLST [list name | DSname level]
DTEST [parameter number]

END

ENVIRON [ENBLDUMP [ON | OFF]]
[TERMTRAC [ON | ERROR | DUMP | OFF]]
[TERMSTAT [QUERY]]EPDF datasetname [Browse] [View]
[Macro macroname] [Profile profilename]
[Panel panelname] [Format formatname]
[Recover] [Mixed YES|NO]EXHELP
EXITFKA [ON | SHORT | OFF | PREFIX | NOPREFIX]
FORWARD

HELP

INT

ISPDPTRC [END]
[VIEW]
[QUIET]
[DSP|DISPLAY(None | In | Out | Both)]
[PNL|PANEL(* | panel_name | panel_mask)]
[READ(None | Summary | Detail)]
[SCR|SCREEN(0 | * | screen_id)]
[SECT|SECTION(* | All | None | [Init] [Reinit] [Proc] |
[NOInit] [NOReinit] [NOProc])]
[SVC|SERVICE(None | Detail)]

ISPD TLC

ISPF TTRC [END]
[VIEW]
[QUIET]
[READ(None | Summary | Detail)]
[REC|RECORDS(* | All | None | [Src|Source] [Data] [Cntl] |
[NOsrc|NOsource] [NOData] [NOCntl])]
[SCR|SCREEN(0 | * | screen_id)]
[SVC|SERVICE(None | Detail)]
[SKL|SKELETON(* | skel_name | skel_mask)]
[TBV|TBVARS(None | Detail)]ISPFVAR [LMSG(ON|OFF) | JUMP(ON|OFF) | ABTAB(ON|OFF) | PSTAB(ON|OFF) |
SESM(ON|OFF) | EDPRT(ON|OFF) | EURO (ON|OFF) | SPLTLINE (ON|OFF) |
SCRML(ON|OFF)]

ISPFWORK

ISPLIBD [libtype]

ISPF General Information

ISPPREP
ISRRLIST
ISRROUTE

KEYLIST [PRIVATE | SHARED | ON | OFF]
KEYS
KEYSHELP

LEFT
LIST [PRINT | DELETE | KEEP]
LOG [PRINT | DELETE | KEEP]

MSGID [ON | OFF]

NOP
NRETRIEV

PANELID [ON | OFF]
PFSHOW [ON | OFF | TAILOR]
PRINT
PRINTG
PRINT-HI
PRINTL
PRINTLHI
PSCOLOR

RCHANGE
REFACTD [nnnnnnnn xx]
REFACTL [nnnnnnnn xx]
REFADD [nnnnnnnn xx]
REFADDL [nnnnnnnn xx]
REFLISTD [xx]
REFLISTL [xx]
REFOPEN
REFOPENL
RESIZE
RETF
RETP
RETRIEVE
RETURN
RFIND
RIGHT

SAREA
SCRNAME [screen name | PERM | ON | OFF]
SETTINGS
SPLIT [NEW]
SPLITV
START
SWAP [LIST | PREV | NEXT | *screen name* | *n*]
SWITCH [3270 | GUI]
SYSNAME [ON | OFF]

TOP
TSO
TSOCMD
TSOGUI [ON | OFF]
TUTOR [panelid]

UP
USERID [ON | OFF]

WINDOW
WS

WCON
WSDISCON

ZKEYS

Command Table Actions

ALIAS	When followed by the name of another command and optional parameters, allows specification of command aliases.
NOP	Causes the command to be functionless. System displays an "inactive command" message in this case.
PASSTHRU	Causes the command to be passed to the dialog, as though it had not been found in the table.
SELECT	When followed by selection keywords, causes the selected dialog command, program or selection panel to be given control immediately.
SETVERB	Causes the command to be passed to the dialog with the command verb stored separately from the parameters.
<i>Blank (no action)</i>	Causes the table entry to be ignored, and scanning to continue (to search for additional entries having the same verb).
<i>Variable name</i>	Begins with an ampersand. Its content may be one of the above actions. Allows dynamic specification of a command action.

Dialog Test Commands

Primary Commands

You can enter the following commands on the Command line while using Dialog Test (option 7).

CANCEL

END

LOCATE string
LOC
L

QUAL

RESUME
RES

Line Commands

The following line commands have special meaning during testing operations.

D[n] Delete one or *n* lines starting with this line.

I[n] Insert one or *n* lines directly after this line, with underscores and quotes in the appropriate fields.

R[n] Repeat this line once or *n* times.

Message Definitions

Line 1:
 msgid ['short message'] [.HELP=panel-name|*] [NOKANA|KANA]
 [.WINDOW=RESP|NORESP|LRESP|LNORESP] [.TYPE=NOTIFY|WARNING|ACTION|CRITICAL]

Line 2:
 'long message' [+]

Line 3:
 ['long message' [+]]

Line 4:
 ['long message' [+]]

Line n:
 ['long message']

Skeleton Control Statements

)BLANK *[number]*

)CM *comment*

)DEFAULT *abcdefg*

)DO *[do-expression]* [WHILE *while-expression* | UNTIL *until-expression*]
)DO FOREVER
)DO *count*
)ITERATE
)LEAVE [DOT]
)ENDDO

)DOT *table-name* [SCAN [(*name-cond-pairs*)]]
)ENDDOT

)IF *relational-expression* THEN [*control-statement*]
)ELSE [*control-statement*]
)NOP

)IM *skel-name* [NT] [OPT]

)SEL *relational-expression*
)ENDSEL

)SET *variable* = *expression*

)TB *value1 ... value16*
)TB *value1*[A] ... *value16*[A]
)TBA *value1 ... value16*

Panel Definitions

All parameters on header statements are optional. When preparing a panel header statement, use only one line.

Coded Character Set Identifier Section

)CCSID NUMBER(xxxxx)

Panel Section

)PANEL [KEYLIST (*keylist-name* [, *keylist-applid*, SHARED])]
 [IMAGE (*image-name*, *row*, *col*)]

Attribute Section:

```
)ATTR [DEFAULT (def1def2def3)]
      [FORMAT(EBCDIC|DBCS|MIX)]
      [OUTLINE([L][R][O][U]|BOX|NONE)]
```

Action Bar Choice Section:

```
)ABC DESC(choice-description-text) MNEM(number)
      PDC DESC(choice-description-text) UNAVAIL(variable) MNEM(number)
      ACC(key1[+key2][+key3])
      PDSEP(OFF|ON)
      ACTION RUN(command-name) PARM(command-parms)
```

Note: The MNEM keyword is only valid when running in GUI mode.

Action Bar Choice Initialization Section:

```
)ABCINIT
```

Note: Only valid when the Action Bar Choice section is specified.

Action Bar Choice Processing Section:

```
)ABCPROC
```

Note: Only valid when the Action Bar Choice section is specified.

Body Section:

```
)BODY [CMD(field-name)] [DEFAULT(def1def2def3)]
      [MSG(field-name)] [KANJI]
      [LMSG(field-name)] [WIDTH(width)]
      [ASIS] [EXPAND(xy)]
      [WINDOW(width,depth)] [FORMAT(EBCDIC|DBCS|MIX)]
      [OUTLINE([L][R][O][U]|BOX|NONE)]
```

Note: All keywords must be specified on the same panel line.

Model Section:

```
)MODEL [CLEAR(var-name,var-name...)]
      [ROWS(ALL | SCAN)]
      [SFIHDR]
```

Area Section:

```
)AREA name [DEPTH(depth)]
```

Initialization Section:

```
)INIT
```

Reinitialization Section:

```
)REINIT
```

Processing Section:

```
)PROC
```

Field Section:

```
)FIELD FIELD(field-name) [LEN(value|field-name)]
      [IND(field-name,value)] [LIND(field-name,value)]
      [RIND(field-name,value)] [SIND(field-name,value)]
      [LCOL(field-name)] [RCOL(field-name)]
      [SCALE(field-name)] [SCROLL(value|field-name)]
```

Help Section:

```
)HELP FIELD(field-name) PANEL(help-panel-name) | MSG(msg_name) | PASSTHRU
```

List Section

```
)LIST (list-name)
VAL(value) CHOICE(value)
```

Specifying point and shoot fields:

```
)PNTS FIELD(field-name)|ZPSxyyy VAR(variable) VALUE(value)
      [DEPTH (depth)] [IMAGE(image-name)] [IMAGEP(image-name)]
      [TEXT('text')] [PLACE(a, b, l, r)]
```

Specifying the End of a Panel Definition:

)END

Panel Statements and Built-in Functions

Attribute Section:

```

AREA(DYNAMIC|GRAPHIC|SCRL)
ATTN(ON|OFF)
CAPS(ON|OFF|IN|OUT)
CKBOX(ON|OFF)
COLOR(WHITE|RED|BLUE|GREEN|PINK|YELLOW|TURQ)
COMBO(ON|OFF|name)
CSGRP(x)
CUADYN(value)
DATAMOD(datamod-code)
DDLST(ON|OFF|name)
DEPTH(d)
EXTEND(ON|OFF)
FORMAT(EBCDIC|DBCS|MIX)
GE(ON|OFF) (Note: For use with TYPE(CHAR) only.)
HILITE(USCORE|BLINK|REVERSE)
INTENS(HIGH|LOW|NON)
JUST(LEFT|RIGHT|ASIS)
LISTBOX(ON|OFF|name)
NOJUMP(ON|OFF)
NUMERIC(ON|OFF)
OUTLINE([L][R][O][U] |BOX|NONE)
PAD(NULLS|USER|char)
PADC(NULLS|USER|char)
PAS(ON|OFF)
RADIO(ON|OFF)
REP(character)
SCROLL(ON|OFF)
SKIP(ON|OFF)
TYPE(TEXT|INPUT|OUTPUT|DATAIN|DATAOUT)
UNAVAIL(ON|OFF)
USERMOD(usermod-code)
WIDTH(w)

```

Note: Common User Access® (CUA®) attribute TYPE values listed below are identified in the section that follows.

```

TYPE(AB|ABSL|CEF|CH|CHAR|CT|DATAIN|DATAOUT|DT|EE|
      ET|FP|LEF|LI|LID|NEF|NT|PIN|
      PS|PT|RP|SAC|SI|SUC|VOI|WASL|WT)

```

```
TYPE(GRPBOX|SC)
```

CUA Attribute TYPE Values:

TYPE Value	Description
AB	Action Bar Unselected Choices
ABSL	Action Bar Separator Line
CEF	Choice Entry Field
CH	Column Heading
CHAR	Character attributes in a dynamic area
CT	Caution Text
DATAIN	Input (unprotected) field in a dynamic area
DATAOUT	Output (protected) field in a dynamic area
DT	Descriptive Text
EE	Error Emphasis
ET	Emphasized Text

FP	Field Prompt
GRPBOX	Group Box
INPUT	Input (unprotected) field
LEF	List Entry Field
LI	List Items
LID	List Item Description
NEF	Normal Entry Field
NT	Normal Text
OUTPUT	Output (protected) field
PIN	Panel Instruction
PS	Point-and-Shoot
PT	Panel Title
RP	Reference Phrase
SAC	Select Available Choices
SC	Selected choice
SI	Scroll Information
SUC	Select Unavailable Choices
TEXT	Text (protected) field
VOI	Variable Output Information
WASL	Work Area Separator Line
WT	Warning Text

Initialization, Reinitialization, and Processing Sections:

```

variable = value
variable = LVLINE(areaname)
variable = PFK(value)
variable = TRANS (variable value,value...[MSG=message-id])
variable = TRUNC (variable,value)
variable = ADDSOSI(variable)
variable = DELSOSI(variable)
variable = ONEBYTE(variable)
variable = TWOBYTE(variable)

GOTO label
IF (variable operator value[,value...])
ELSE
EXIT
PANEXIT((value,value,...),
        {PGM, exit_add [,exit-data] [,MSG=value]
        LOAD, exit-mod[,exit-data] [,MSG=msgid]})
REFRESH(field1, field2, ...)
*REXX([[*],value,value...[, (member)])]
TOG (mode,fld,&variable [,value1,value2])
VEDIT (variable[,MSG=value])
VGET name-list [ ASIS | SHARED | PROFILE ])
VPUT name-list [ ASIS | SHARED | PROFILE ])
VER (variable[,NONBLANK],keyword[,value...],
    [,MSG=message-id])

```

VER Keywords:

ALPHA	ALPHAB	BIT	DBCS	DSNAME	DSNAMEF	DSNAMEFM
DSNAMEPQ	DSNAMEQ	EBCDIC	ENUM	FILEID	HEX	IDATE
INCLUDE	ITIME	JDATE	JSTD	LEN	LIST	LISTV
LISTVX	LISTX	MIX	NAME	NAMEF	NUM	PICT
PICTCN	RANGE	STDDATE	STDTIME			

Panel Control Variables

```

.ALARM = YES|NO|blank|null|variable
.ATTR(field) = 'keyword(value), keyword(value) ...'
.ATTRCHAR(char) = 'keyword(value), keyword(value) ...'
.AUTSEL = YES|NO

```

ISPF General Information

```
.CSRPOS = cursor-position
.CSRROW = table-row-number
.CURSOR = field-name
.HELP = panel-name
.MSG = message-id
.PFKEY = contains function key pressed by user (PF01,PF02, ...,PF24)
.RESP = ENTER|END
.TRAIL = contains remainder from TRUNC operation
.ZVARS = '(name-list)'
```

PDF Browse Primary Commands

You can enter the following commands on the command line while using the Browse function.

BROWSE [member]
BRO

COLUMNS [*ON* | OFF]
COLS
COL

| DISPLAY [LINE start_line [end_line]] [COLS start_col [end_col]] [CCSID ccsid_number]
| OR:
| DISPLAY [char] [*NOCC* | CC]
| DISPL
| DISP
| DIS

EDIT [member]

| FIND string [UTF8] [*NEXT*] [*CHARS*] [col-1 [col-2]]
| F [ASCII] [ALL] [PREFIX]
| [USASCII] [FIRST] [SUFFIX]
| [LAST] [WORD]
| [PREV]

HEX [*ON* | OFF]
 [*VERT* | DATA]

LOCATE {line-number | label}
LOC
L

RESET

SUBMIT

VIEW [member]

You can use the following format to enter label definitions on the command line:

.cccc Defines a label (PDF component internal symbol), which is equated to the top line on the screen. Can be used with LOCATE to scroll directly to that line.

PDF Member List Commands

Primary Commands

You can enter the following commands on the command line on member list displays.

CONFIRM
 LOCATE string
 LOC
 L
 MLC
 MLS
 REFRESH
 RESET
 SAVE [list-id]
 SELECT {pattern | * } [lcmd]
 SEL
 S
 I SORT [field1 [A|D] [field2 [A|D]]]

Line Commands

On all member list displays except those for option 3.1 and 3.4, you can enter the following 1-character command at the beginning of a line.

S Selects the member.

On option 3.1 and 3.4 member list displays, you can enter the following 1-character commands at the beginning of a line.

B Browses the member.

C Copies the member.

D Deletes the member.

E Edits the member.

G Resets the member.

J Submits the member.

M Moves the member.

P Prints the member.

R Renames the member. When using this command, you must also enter the new name to the right of the member name.

T TSO command.

V Views the member.

W WS command.

TSO commands, CLISTs, and REXX EXECs can be entered in member lists that have an expanded line command field. These are member lists displayed by using option M of the Data Set List utility. Here, any command other than B, D, E, P, R, or V is considered to be a TSO command, CLIST, or REXX EXEC.

PDF Data Set List Commands

Primary Commands

You can enter the following commands on the command line on option 3.4 data set list displays.

APPEND

CONFIRM [ON | OFF]

CON

C

DSLIST

EXCLUDE

FIND string [NEXT] [CHARS]
F [ALL] [PREFIX]
[FIRST] [SUFFIX]
[LAST] [WORD]
[PREV]

LC

LOCATE lparm

LOC

L

REFRESH

RESET

RFIND

SAVE [list-id]

SHOWCMD [ON | OFF]

SHOW

SORT [field1[field2]]

VA

VS

VT

VW

Line Commands

On option 3.4 data set list displays, you can enter the following 1-character commands at the beginning of a line. Any other command entered at the beginning of a line is considered to be a TSO command, CLIST, or REXX EXEC.

- B** For a library or partitioned data set, displays a member list. You can then use the S command to select a member to browse. For a sequential data set, displays the data set in browse mode.
- C** Catalogs the data set.
- CO** Copies a data set.
- D** Deletes an entire data set. Displays a Confirm Delete panel if you request confirmation.

E	For a library or partitioned data set, displays a member list. You can then use the S command to select a member to edit. For a sequential data set, displays the data set in edit mode.
F	Frees unused space in a data set.
I	Displays library or data set information.
M	For a library or partitioned data set, displays a member list.
MO	Moves a data set.
NX	Unexclude a line from display.
NXF	Unexclude the first of a set of excluded data sets.
NXL	Unexclude the last of a set of excluded data sets.
P	Prints the library or data set.
PX	Prints an index listing.
R	Displays a panel, on which you can rename the library or data set.
RA	Adds a data set to a reference list.
RS	Resets statistical data.
S	Displays library or data set information in short format.
U	Uncatalogs the data set.
V	For a library or partitioned data set, displays a member list. You can then use the S command to select a member to view. For a sequential data set, displays the data set in view mode.
X	Excludes a data set from the list.
Z	Compresses a library or data set.
=	Repeats the last line command entered.

PDF Edit and View Commands

Primary Commands

While you are using the PDF editor to edit or view data, the following commands can be entered on the command line.

```
AUTOLIST [ON ]
          [OFF]

AUTONUM  [ON ]
          [OFF]

AUTOSAVE [ON           ]
          [OFF PROMPT ]
          [OFF NOPROMPT]

BOUNDS [left-col right-col]
BOUND
BNDS
BND

BROWSE [member]

BUILTIN cmdname

CANCEL
```

PDF Component General Information

```
CAN

CAPS [ON ]
      [OFF]

CHANGE str-1 str-2 [range] [NEXT ] [CHARS ] [X ] [col-1 [col-2]]
CHG      [ALL ] [PREFIX] [NX]
CHA      [FIRST] [SUFFIX]
C        [LAST ] [WORD ]
          [PREV ]

COLS      [ON ]
COLUMNS [OFF]
COL

COMPARE      [DSNAME ] [EXCLUDE ] [SAVE ] [SYSIN] [NEXT]

COPY [member] [AFTER label ]
      [BEFORE label]

CREATE [member] [range]
CRE

CUT [lptr-range ] [DEFAULT | clipboardname ] [REPLACE ] [DISPLAY ]

DEFINE name {MACRO CMD  }
DEF         {MACRO PGM  }
            {ALIAS name-2}
            {NOP        }
            {RESET      }
            {DISABLED   }

DELETE {ALL  X|NX }
DEL    {range X|NX }
      {ALL  range}

EDIT [member]

EDITSET
EDSET

END

EXCLUDE str [range] [NEXT ] [CHARS ] [col-1 [col-2]]
EXC      [ALL ] [PREFIX]
EX       [FIRST] [SUFFIX]
X        [LAST ] [WORD ]
          [PREV ]

FIND str [range] [NEXT ] [CHARS ] [X ] [col-1 [col-2]]
F      [ALL ] [PREFIX] [NX]
      [FIRST] [SUFFIX]
      [LAST ] [WORD ]
      [PREV ]

FLIP [label1] [label2]

HEX [ON DATA]
    [ON VERT]
    [OFF ]

HIDE X

HILITE [ON      ] [AUTO ] [RESET] [PAREN] [FIND] [CURSOR] [SEARCH] [DISABLED]
HI     [OFF     ] [DEFAULT]
      [LOGIC ] [OTHER ]
      [IFLOGIC] [ASM ]
      [DOLOGIC] [BOOK ]
```

```

[NOLOGIC] [C      ]
           [COBOL  ]
           [DTL    ]
           [HTML   ]
           [IDL    ]
           [JCL    ]
           [PANEL  ]
           [PASCAL ]
           [PLI    ]
           [REXX   ]
           [SKEL   ]
           [SUPERC ]
           [XML    ]

```

IMACRO [name|NONE]

LEVEL num
LEV

LOCATE {label }
LOC {line-number}
L

LOCATE [FIRST] {CHANGE } [range]
LOC [LAST] {COMMAND }
L [NEXT] {ERROR }
[PREV] {EXCLUDED}
{LABEL }
{SPECIAL }

MODEL [CLASS [class-name]]
MOD

MODEL [model-name [qualifier...]] {AFTER label } [NOTE]
MOD {BEFORE label} [NONOTE]

MOVE [member] [AFTER label]
[BEFORE label]

NONUMBER

NOTES [ON]
NOTE [OFF]

NULLS [ON STD]
NULL [ON ALL]
NUL [OFF]

NUMBER [ON] [STD] [DISPLAY]
NUMB [OFF] [COBOL]
NUM [STD COBOL]
[STD COBOL]
[NOSTD]
[NOCOBOL]
[NOSTD NOCOBOL]

PACK [ON]
[OFF]

PASTE [clipboardname] [AFTER label][BEFORE label] [KEEP]

PRESERVE
PROFILE [name] [number]
PROF
PRO
PR

PROFILE RESET

PDF Component General Information

PROF
PRO
PR
PROFILE [LOCK | UNLOCK]
PROF
PRO
PR

RCHANGE

RECOVERY [ON | OFF]
RECOVER [WARN | NOWARN | SUSP]
RECOV
REC

RENUM [ON] [STD] [DISPLAY]
[COBOL]
[STD COBOL]

REN

REPLACE [member] [range]
REPL
REP

RESET [CHANGE] [range]
RES [COMMAND]
[ERROR]
[EXCLUDED]
[FIND]
[HIDE]
[LABEL]
[SPECIAL]

RFIND

RMACRO [name|NONE]

SAVE
SETUNDO [STORAGE | RECOVER | OFF]
SETU

SORT [range] [X] [sort-field1...sort-field5]
[NX]

STATS [mode]
SUBMIT [range]
SUB

TABS [ON] [STD]
TAB [OFF] [ALL]
[tab-character]

UNDO

UNNUMBER
UNNUM
UNN

VERSION num
VERS
VER

VIEW [member]

Line Commands

Under Edit or View, you can enter the following line commands at the beginning of a line by typing over the line number. If you do not enter a value of *n*, the default is 1 except for:

- The shift commands, which default to 2 column positions
- The TE command, which defaults to the number of lines remaining on the screen
- The TF command, which defaults to the current right boundary.

<[<i>n</i> 2]	Shifts data left the specified number of positions (default 2).
<<[<i>n</i> 2]	
>[<i>n</i> 2]	Shifts data right the specified number of positions (default 2).
>>[<i>n</i> 2]	
([<i>n</i> 2]	Shifts columns left the specified number of positions (default 2).
(([<i>n</i> 2]	
)[<i>n</i> 2]	Shifts columns right the specified number of positions (default 2).
))[<i>n</i> 2]	
A[<i>n</i>]	Identifies the line after which copied, moved, or model lines are to be inserted.
B[<i>n</i>]	Identifies the line before which copied, moved, or model lines are to be inserted.
BOUNDS	Displays the column boundary definition line.
BOUND	
BNDS	
BND	
C[<i>n</i>]	Copies one or more lines from one location to another.
CC	
COLS	Displays a position identification line.
COL	
D[<i>n</i>]	Deletes one or more lines.
DD	
F[<i>n</i>]	Redisplays one or more lines at the beginning of a block of excluded lines.
I[<i>n</i>]	Inserts a blank data entry line.
L[<i>n</i>]	Redisplays one or more lines at the end of a block of excluded lines.
LC[<i>n</i>]	Converts all uppercase alphabetic characters in one or more lines to lowercase.
LCC	
LCLC	
M[<i>n</i>]	Moves one or more lines from one location to another.
MM	
MASK	Displays the contents of the mask when used with the I (insert), TE (text entry), and TS (text split) line commands.
MD	Makes NOTE, MSG, INFO, and COLS lines into data lines.
MDD	
MDMD	
O[<i>n</i>]	Rearranges a single column list of items into multiple column, or tabular, format.
OO	
R[<i>n</i>]	Repeats one or more lines.
RR[<i>n</i>]	
S[<i>n</i>]	Redisplays one or more lines with the leftmost indentation in a block of excluded lines.
TABS	Displays the tab definition line.
TAB	
TE[<i>n</i>]	Inserts blank lines to allow power typing for text entry.
TF[<i>n</i>]	Restructures paragraphs following deletions, insertions, splitting, and so forth.

TS[n]	Divides a line so that data can be added.
UC[n]	Converts all lowercase alphabetic characters in one or more lines to uppercase.
UCC	
UCUC	
X[n]	Excludes one or more lines from a panel.
XX	

Search Strings

Picture Strings – Special Characters for String-1:

P'='	Any character
P'¬'	Any character that is not a blank
P'.'	Any character that cannot be displayed
P' #'	Any numeric character, 0-9
P' -'	Any nonnumeric character
P'@'	Any alphabetic character, uppercase or lowercase
P'<'	Any lowercase alphabetic character
P'>'	Any uppercase alphabetic character
P'\$'	Any special character, neither alphabetic nor numeric.

If you are using an APL or TEXT keyboard, you can use the following additional characters in a picture string:

P'⚡'	Any APL-specific or TEXT-specific character
P'_ '	Any underscored nonblank character.

Picture Strings – Special Characters for String-2

P'='	Equal to the corresponding character in string-1
P'>'	Converts the corresponding character in string-1 to uppercase
P'<'	Converts corresponding character in string-1 to lowercase.

Character String Format

Simple string:	cccccc (no embedded blanks or commas)
Delimited string:	'cccccc' or "cccccc"
Hex string:	X'hhhhh' or 'hhhh'X
Text string:	T'cccc' or 'cccc'T
Picture string:	P'ssss' or 'ssss'P
Character string:	C'cccc' or 'cccc'C
Previous string:	* (single asterisk)

Chapter 2. ISPF Service Syntax with Return Codes

This chapter contains the ISPF services. The services are presented in alphabetical order. For each service, the command procedure format is shown, followed by the PL/I call formats. For more complete information, see the *z/OS ISPF Services Guide*.

Each service description consists of the following information:

Format The syntax used to code the service, showing both command invocation and call invocation.

Return Codes A description of the codes returned by the service. For all services, a return code of 12 or higher implies a severe error. This error is usually a syntax error, but can be any severe error detected when using the services.

Syntax Notation

In this manual, the following syntax notation conventions are used:

- Uppercase commands and their operands should be spelled as shown, but need not be entered in uppercase. Operands shown in lowercase are variables; a value should be substituted for them.
- Operands shown in brackets [] are optional, with a choice indicated by vertical bars |. One or none can be chosen; the defaults are underscored.
- Operands shown in braces { } are alternatives; one must be chosen.
- An ellipsis (...) indicates that the parameter shown can be repeated to specify additional items of the same category.

ISPEXEC Command Invocation

The general format for a command invocation is:

ISPEXEC service-name parameter1 parameter2 parameter3 ...

ISPEXEC Parameter Conventions

service-name

Alphabetic; up to 8 characters long.

parameter1

Positional parameter; required for some services.

parameter2 parameter3 ...

Keyword parameters. They can take either of two forms:

keyword

or

keyword(value)

The ISPLINK Interface

For calls in PL/I or COBOL, the general call format for invoking ISPF services from functions by using ISPLINK is:

CALL ISPLINK (service-name, parameter1, parameter2, ...);

CALL ISPLINK Parameters

These parameters are positional. They must appear in the order described for each service.

Parameters shown inside brackets ([]) are optional, but ISPF assumes default values for those parameters you do not choose.

If you want to omit a parameter, you must still account for it by inserting a blank enclosed in single quotes (' ') in its place. This is how you would omit **parm2** from this sample call:

```
CALL ISPLINK (service-name, parm1, ' ', parm3);
```

If you need only the first few of a list of parameters, you must omit all other parameters to the right of the last parameter you need. For example, if you are using a service that has five parameters, but you need to use only the first three, code it like this:

```
CALL ISPLINK (service-name, parm1, parm2, parm3);
```

You must show the last parameter in the calling sequence with a '1' as the high order bit in the last entry of the address list. PL/I, COBOL, Pascal, and FORTRAN call statements automatically generate this high-order bit. However, you must use the VL keyword in assembler call statements.

The ISPEXEC Interface

You can use the command function form for service requests in a program function by using the call format of ISPEXEC. Excluding calls in FORTRAN, Pascal, and APL2®, the general call format for invoking ISPF services from program functions by using ISPEXEC is:

```
CALL ISPEXEC (buf-len, buffer);
```

CALL ISPEXEC Parameters

buf-len

Specifies a fullword fixed binary integer containing the length of the buffer.

buffer

Specifies a buffer containing the name of the service and its parameters just as they would appear in an ISPEXEC invocation for a command invocation written in CLIST.

The maximum buffer size is 32767 bytes.

All services that are valid through ISPEXEC command invocation statements are valid through the CALL ISPEXEC interface.

ISPF Services

ADDPOP – Start Pop-Up Window Mode

Command Invocation Format

```
ISPEXEC ADDPOP [POPLOC(field-name)] [ROW(row)]  
               [COLUMN(column)]
```


Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('ADDPOP ' [,field-name] [,row]
               [,column ] );
```

Return Codes

- 0 Normal completion.
- 12 An ADDPOP service call was issued before the panel was displayed or another ADDPOP service call was issued before a panel was displayed for the previous ADDPOP call.
- 20 Severe error.

BRIF – Browse Interface**Command Invocation Format**

Command procedures cannot be used to invoke this service.

Call Invocation Format

```
CALL ISPLINK ('BRIF ' ,[data-name] ,rec-format
                    ,rec-len ,read-routine
                    ,[cmd-routine] ,[dialog-data]
                    ,[panel-name] ,[format-name]
                    ,['YES ' | 'NO ' ] );
```

Return Codes**Read Routine:**

- 0 Normal completion.
- 4 Temporary end of file.
- 8 Record requested beyond end of data. The relative record number of the last data record and a pointer to the last data record are returned.
- 16 Read error. Browse data obtained up to the read error is formatted and displayed with an indication that a read error was encountered.
- 20 Severe error. (The BRIF service terminates immediately with a return code of 20.)

Command Routine:

- 0 Normal completion.
- 4 The PDF component should process the requested function.
- 12 Command deferred; retain the command on the Command line. Browse data is redisplayed.
- 20 Severe error. (The BRIF service terminates immediately with a return code of 20.)

BRIF service:

- 0 Normal completion.
- 12 No data to browse.
- 16 Unexpected return code received from a dialog-supplied routine; unable to continue. When an unexpected return code is received, the BRIF service terminates immediately with a return code of 16.
- 20 Severe error; unable to continue.

BROWSE – Browse a Data Set

Command Invocation Format

```
ISPEXEC BROWSE DATASET(dsname) [VOLUME(serial)]
                                [PASSWORD(pswd-value)]
                                [PANEL(panel-name)]
                                [FORMAT(format-name)]
                                [MIXED(YES|NO)]
```

OR

```
ISPEXEC BROWSE DATAID(data-id) [MEMBER(member-name)]
                                [PANEL(panel-name)]
                                [FORMAT(format-name)]
                                [MIXED(YES|NO)]
```

Call Invocation Format

```
CALL ISPLINK ('BROWSE ', {dsname}, [serial]
              , [pswd-value]
              , [panel-name]
              , {data-id}
              , [member-name]
              , [format-name]
              , ['YES' | 'NO' ]);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

Return Codes

- 0 Normal completion.
- 12 Zero-length data; empty sequential data set or zero-length member of a partitioned data set.
- 14 Specified member not found.
- 16 One of the following:
 - No members matched the specified pattern.
 - No members in the partitioned data set.
- 18 A VSAM data set was specified but the ISPF Configuration Table does not allow VSAM processing.
- 20 Severe error; unable to continue.

CONTROL – Set Processing Modes

Command Invocation Format

```
ISPEXEC CONTROL { DISPLAY { LOCK } }
                  { { LINE [START(line-number)] } }
                  { { SM [START(line-number)] } }
                  { { REFRESH } }
                  { { SAVE|RESTORE } }
                  { { ALLVALID } }
                  { NONDISPL [ENTER|END] [NOSETMSG] }
                  { ERRORS [CANCEL|RETURN] }
                  { SPLIT { ENABLE } }
                  { { DISABLE } }
                  { NOCMD }
                  { SUBTASK { PROTECT } }
                  { { CLEAR } }
```

```

{
{ TSOGUI [QUERY|OFF|ON]
{ REFLIST [UPDATE|NOUPDATE]
}
}

```

Call Invocation Format

CALL ISPEXEC (buf-len, buffer);

OR

CALL ISPLINK ('CONTROL ', operand);

Note: parameters that can appear in *operand* are:

```

{ 'DISPLAY ' { { 'LOCK ' } }
{ { { 'LINE ' [,line-number] } }
{ { { 'SM ' [,line-number] } }
{ { { 'REFRESH ' } }
{ { { 'SAVE ' | 'RESTORE ' } }
{ { { 'ALLVALID' } }
{
{ 'NONDISPL' [, 'ENTER ' | 'END ' ]
{
{ 'ERRORS ' [, 'CANCEL ' | 'RETURN ' ] [NOSETMSG] }
{
{ 'SPLIT ' { { 'ENABLE ' } }
{ { { 'DISABLE ' } }
{
{ 'NOCMD '
{
{ 'SUBTASK ' { { 'PROTECT ' } }
{ { { 'CLEAR ' } }
{ 'TSOGUI ' [, 'QUERY' | 'OFF ' | 'ON ' ] }
{ 'REFLIST ' [, 'UPDATE' | 'NOUPDATE' ] }
}
}

```

Return Codes

- 0 Normal completion.
- 8 Split-screen mode already in effect. Applies only to a SPLIT DISABLE request. Split-screen mode remains enabled.
- 20 Severe error.

DISPLAY – Display Panels and Messages

Command Invocation Format

```

ISPEXEC DISPLAY [PANEL(panel-name)]
                [MSG(message-id)]
                [CURSOR(cursor-field-name)]
                [CSRPOS(cursor-position)]
                [COMMAND(stack-buffer-name)]
                [RETBUFFR(ret-buffer-name)]
                [RETLGTH(ret-length-name)]
                [MSGLOC(message-field-name)]

```

Call Invocation Format

CALL ISPEXEC (buf-len, buffer);

OR

```

CALL ISPLINK ('DISPLAY ' [,panel-name]
                [,message-id]
                [,cursor-field-name]
                [,cursor-position]
                [,stack-buffer-name]

```

```
[,ret-buffer-name]
[,ret-length-name]
[,message-field-name]]);
```

Return Codes

- 0 Normal completion. For the COMMAND option, the ret-buffer-name is set to blanks and the ret-length-name is set to zero. Passing an empty command chain buffer also results in a normal completion.
- 4 One or more commands in the stack could not be found in the active set of command tables.
- 8 User requested termination via the END or RETURN command. For panels generated with the tag conversion utility, CANCEL and EXIT commands also give a return code of 8.
- 12 The specified panel, message, cursor field, or message location field could not be found.
- 16 Truncation or translation error in storing defined variables.
- 20 Severe error.

DSINFO – Data Set Information Dialog

Command Invocation Format

```
ISPEXEC DSINFO DATASET(dsname) [VOLUME(serial)]
```

Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
OR
CALL ISPLINK ('DSINFO ' [,dsname]
              [,serial]
```

Return Codes

- 0 Normal completion.
- 8 User requested data set was not found.
- 12 One of the following:
 - FAMS error.
 - Obtain error.
 - Error obtaining directory information.
- 20 Severe error; unable to continue.

EDIF – Edit Interface

Command Invocation Format

Command procedures cannot be used to invoke this service.

Call Invocation Format

```
CALL ISPLINK ('EDIF ' [,data-name] ,profile-name
                    ,rec-format ,rec-len
                    ,read-routine, write-routine
                    ,[cmd-routine] ,[dialog-data]
                    ,[edit-len] ,[panel-name]
                    ,[macro-name] ,[format-name]
                    ,['YES ' | 'NO ' ]
                    ,['YES ' | 'NO ' ]
                    ,[parm-var]);

OR

CALL ISPLINK ('EDIF ' [,data-name] ,' '
                    ,[rec-format] ,[rec-len]
                    ,read-routine ,write-routine
```

```
,[cmd-routine] ,[dialog-data]
, ' , , , , ,
.'YES '):
```

Return Codes

Read Routine:

- | | |
|----|---|
| 0 | Normal completion. |
| 8 | End of data records (no data record returned). |
| 16 | Read error. If a read error is encountered when building the initial edit display, the EDIF service terminates with a return code of 20. Otherwise, the edit data is redisplayed. |
| 20 | Severe error. (EDIF service terminates immediately with a return code of 20.) |

Write Routine Return Codes:

- | | |
|----|---|
| 0 | Normal completion. |
| 16 | Output error, return to Edit mode. |
| 20 | Severe error. (EDIF service terminates immediately with a return code of 20). |

Command Routine Return Codes:

- | | |
|----|---|
| 0 | Normal completion. |
| 4 | The PDF component should process the requested function. |
| 12 | Command deferred; retain the command on the Command line. Edit data is redisplayed. |
| 20 | Severe error. (EDIF service terminates immediately with a return code of 20.) |

EDIF Return Codes:

- | | |
|----|---|
| 0 | Normal completion, data saved. |
| 4 | Normal completion, data not saved. |
| 16 | Unexpected return code received from a dialog-supplied routine. When an unexpected return code is received, the EDIF service terminates immediately with a return code of 16. |
| 20 | Severe error; unable to continue. |

EDIREC – Initialize Edit Recovery

Command Invocation Format

Command procedures cannot be used to invoke this service.

Call Invocation Format

```
CALL ISPLINK ('EDIREC  ', {'INIT      ' [,command-name]}
                          {'QUERY     ' }
                          {'CANCEL    ' }
                          {'DEFER     ' }));
```

Return Codes

- ```

0 Normal completion.
 • INIT - EDIF recovery table was successfully created.
 • QUERY - Recovery is not pending.
4 Normal completion.
 • INIT - EDIF recovery table already exists for current application
 • QUERY - Entry found in EDIF recovery table (recovery is pending).
20 Severe error; unable to continue.

```

## EDIT – Edit a Data Set

### Command Invocation Format

```
ISPEXEC EDIT DATASET(dsname) [VOLUME(serial)]
 [PASSWORD(pswd-value)]
 [PANEL(panel-name)]
 [MACRO(macro-name)]
 [PROFILE(profile-name)]
 [FORMAT(format-name)]
 [MIXED(YES|NO)]
 [LOCK(YES|NO)]
 [CONFIRM(YES|NO)]
 [WS(YES|NO)]
 [PRESERVE]
 [PARM(parm-var)]
```

*OR*

```
ISPEXEC EDIT DATAID(data-id) [MEMBER(member-name)]
 [PANEL(panel-name)]
 [MACRO(macro-name)]
 [PROFILE(profile-name)]
 [FORMAT(format-name)]
 [MIXED(YES|NO)]
 [LOCK(YES|NO)]
 [CONFIRM(YES|NO)]
 [WS(YES|NO)]
 [PRESERVE]
 [PARM(parm-var)]
```

*OR*

```
ISPEXEC EDIT WSN(ws-filename) [PANEL(panel-name)]
 [MACRO(macro-name)]
 [PROFILE(profile-name)]
 [FORMAT(format-name)]
 [MIXED(YES|NO)]
 [LOCK(YES|NO)]
 [CONFIRM(YES|NO)]
 [WS(YES|NO)]
 [PRESERVE]
 [PARM(parm-var)]
```

### Call Invocation Format

```
CALL ISPLINK ('EDIT ', {dsname} ,[serial]
 ,[pswd-value]
 ,[panel-name]
 ,[macro-name]
 ,[profile-name]
 ,{data-id}
 ,[member-name]
 ,[format-name]
 ,['YES ' | 'NO ']
 ,['YES ' | 'NO ']
 ,['YES ' | 'NO ']
 ,{ws-filename-buffer-name}
 ,['YES' | 'NO']
 ,['PRESERVE']
 , ' '
 , [parm-var]);
```

*OR*

```
CALL ISPEXEC (buf-len, buffer);
```

**Return Codes**

- 0 Normal completion; data was saved.
- 4 Normal completion; data was *not* saved.
- 12 YES was specified for the LOCK parameter.
- 14 Member or sequential data set in use.
- 16 One of the following:
  - No members matched the specified pattern.
  - No members in the partitioned data set.
- 18 A VSAM data set was specified but the ISPF Configuration Table does not allow VSAM processing.
- 20 Severe error; unable to continue.

**EDREC – Specify Edit Recovery Handling****Command Invocation Format**

```
ISPEXEC EDREC {INIT [CMD(command-name)]}
 {QUERY }
 {PROCESS [PASSWORD(pswd-value)]
 [DATAID(data-id)]}
 {CANCEL }
 {DEFER }
```

**Call Invocation Format**

```
CALL ISPLINK ('EDREC ' {,'INIT ' [,command-name]}
 {,'QUERY ' }
 {,'PROCESS ' [,pswd-value] [,data-id]}
 {,'CANCEL ' }
 {,'DEFER ' }));
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

**Return Codes**

- 0 Normal return.
  - INIT - Edit recovery table was successfully created.
  - QUERY - Recovery is not pending.
  - PROCESS - Recovery was completed and the data was saved.
- 4 Normal return.
  - INIT - Edit recovery table already exists for current application.
  - QUERY - Entry found in edit recovery table; recovery is pending.
  - PROCESS - Recovery was completed, but user did not save data.
- 20 Severe error; unable to continue.

**FILESTAT – Statistics for a file****Command Invocation Format**

```
ISPEXEC FILESTAT FILE(var-name)
 [LRECL(var-name),DATE(var-name)]
```

**Call Invocation Format**

```
CALL ISPLINK ('FILESTAT',var-name
 [,var-name,var-name])
```

**Return Codes**

- 0 Workstation file exists.
- 4 Workstation file does not exist.

## FILESTAT service

- 8 Error in variable specification.
- 10 No workstation connection exists.
- 12 Workstation device is not ready.
- 20 Severe error in FILESTAT service.

## FILEXFER – Upload or download file

### Command Invocation Format

```
ISPEXEC FILEXFER HOST(var-name) WS(var-name) TO(HOST|WS)
 [VOLUME(volume)]
 [BINARY|TEXT]
 [STATS|NOSTATS]
 [CHKDATE (YES|NO)]
 [SETDATE (YES|SCLM|NO)]
 [MAKEPATH (YES|NO)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('FILEXFER',host_var,ws_var,'HOST'|'WS',
 [volume,'BINARY'|'TEXT',
 'STATS'|'NOSTATS',
 'YES'|'NO',
 'YES'|'SCLM'|'NO',
 'YES'|'NO',])
```

### Return Codes

- 2 Source file and target file have the same date and time.
- 4 LMSTAT failed.
- 6 Data set not cataloged.
- 7 Error in variable specification.
- 8 "TO" direction not valid.
- 9 Host name is too long.
- 10 No workstation connection exists.
- 11 Return code 1 from DTTRANSFER. Host data set had null object handle.
- 12 Return code 2 from DTTRANSFER. Workstation file had null object handle.
- 13 Return code 3 from DTTRANSFER. Host data set could not be opened.
- 14 Return code 4 from DTTRANSFER. Workstation file could not be opened.
- 15 Return code 5 from DTTRANSFER. Error reading host data set.
- 16 Return code 6 from DTTRANSFER. Error reading workstation file.
- 17 Return code 7 from DTTRANSFER. Error writing host data set.
- 18 Return code 8 from DTTRANSFER. Error writing workstation file.
- 19 Return code 9 from DTTRANSFER. Error closing host data set.
- 20 Severe error in transfer service.
- 21 Return code 10 from DTTRANSFER. Error closing workstation file.
- 22 Return code 11 from DTTRANSFER. User refused file access.
- 23 Data set or member in use.

## FTCLOSE – End File Tailoring

### Command Invocation Format

```
ISPEXEC FTCLOSE [NAME(member-name)]
 [LIBRARY(library)]
 [NOREPL]
```



**Call Invocation Format**

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('FTCLOSE ' [,member-name]
 [,library]
 [, 'NOREPL ']);
```

**Return Codes**

- 0 Normal completion.
- 4 Member already exists in the output library and NOREPL was specified.  
The original member is unchanged.
- 8 File not open. FTOPEN was not used before FTCLOSE.
- 12 Output file in use. ENQ failed.
- 16 Skeleton library or output file not allocated.
- 20 Severe error.

**FTERASE – Erase File Tailoring Output****Command Invocation Format**

```
ISPEXEC FTERASE member-name [LIBRARY(library)]
```

**Call Invocation Format**

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('FTERASE ', member-name [,library]);
```

**Return Codes**

- 0 Normal completion.
- 8 File does not exist.
- 12 Output file in use; ENQ failed.
- 16 Alternate output library not allocated.
- 20 Severe error.

**FTINCL – Include a Skeleton****Command Invocation Format**

```
ISPEXEC FTINCL skel-name [NOFT]
```

**Call Invocation Format**

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('FTINCL ', skel-name [, 'NOFT ']);
```

**Return Codes**

- 0 Normal completion.
- 8 Skeleton does not exist.
- 12 Skeleton in use; ENQ failed.

- 16 Data truncation occurred or skeleton library or output file not allocated.
- 20 Severe error.

## FTOPEN – Begin File Tailoring

### Command Invocation Format

ISPEXEC FTOPEN [TEMP]

### Call Invocation Format

CALL ISPEXEC (buf-len, buffer);

OR

CALL ISPLINK ('FTOPEN ' [, 'TEMP ' ] );

### Return Codes

- 0 Normal completion.
- 8 File tailoring already in progress.
- 12 Output file in use; ENQ failed.
- 16 Skeleton library or output file not allocated.
- 20 Severe error.

## GETMSG – Get a Message

### Command Invocation Format

ISPEXEC GETMSG MSG(message-id) [SHORTMSG(short-message-name)]  
 [LONGMSG(long-message-name)]  
 [ALARM(alarm-name)]  
 [HELP(help-name)]  
 [TYPE(type-name)]  
 [WINDOW(window-name)]  
 [CCSID(ccsid-name)]

### Call Invocation Format

CALL ISPEXEC (buf-len, buffer);

OR

CALL ISPLINK ('GETMSG ' ,message-id [,short-message-name]  
 [,long-message-name]  
 [,alarm-name]  
 [,help-name]  
 [,type-name]  
 [,window-name]  
 [,ccsid-name]);

### Return Codes

- 0 Normal completion.
- 12 The specified message could not be found.
- 20 Severe error.

## GRERROR – Graphics Error Block Service

### Command Invocation Format

ISPEXEC \*This service does not apply to  
 command or APL2 procedures\*

**Call Invocation Format**

CALL ISPEXEC \*This service cannot be used  
with this interface\*

OR

CALL ISPLINK ('GRERROR ', error-record-pointer,  
call-format-descriptor-module-pointer);

**Return Codes**

0 Normal completion.  
8 ISPF/ GDDM<sup>®</sup> interface is not established.  
20 Severe error.

**GRINIT – Graphics Initialization****Command Invocation Format**

ISPEXEC \*This service does not apply to  
command or APL2 procedures\*

**Call Invocation Format**

CALL ISPEXEC \*This service cannot be used  
with this interface\*

OR

CALL ISPLINK ('GRINIT ', application-anchor-block  
[,panel-name]);

**Return Codes**

0 Normal completion.  
8 The specified panel does not contain a GRAPHIC area.  
12 The specified panel could not be found.  
20 Severe error.

**GRTERM – Graphics Termination Service****Command Invocation Format**

ISPEXEC \*This service does not apply to  
command or APL2 procedures\*

**Call Invocation Format**

CALL ISPEXEC \*This service cannot be used  
with this interface\*

OR

CALL ISPLINK ('GRTERM ');

**Return Codes**

0 Normal completion.  
20 Severe error.

## LIBDEF – Allocate Application Libraries

### Command Invocation Format

```
ISPEXEC LIBDEF lib-type [DATASET|EXCLDATA|LIBRARY|EXCLLIBR]
 [ID(dataset-list)|ID(libname)]
 [COND|UNCOND|STACK|STKADD]
```

**Note:** The default option is set in the ISPF configuration table keyword  
DEFAULT\_LIBDEF\_PROCESSING\_OPTION. By default this keyword is set  
to UNCOND.

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('LIBDEF ', lib-type
 [, 'DATASET ' | 'EXCLDATA' | 'LIBRARY ' | 'EXCLLIBR']
 [, dataset-list | libname]
 [, 'COND ' | 'UNCOND '] | 'STACK ' | 'STKADD ');
```

**Note:** The default option is set in the ISPF configuration table keyword  
DEFAULT\_LIBDEF\_PROCESSING\_OPTION. By default this keyword is set  
to UNCOND.

### Return Codes

- 0 Normal completion.
- 4 When removing the application library: Application library does not exist for this type.
- 8 When COND is used: Application library already exists for this type.
- 12 ISPPROF was specified as the lib-type; invalid lib-type specified with EXCLDATA or EXCLLIBR.
- 16 A libname was not allocated, or the dataset-list contains an invalid MVS dsname.
- 20 Severe error.

## LIST – Write Lines to the List Data Set

### Command Invocation Format

```
ISPEXEC LIST BUFNAME(dialog-variable-name)
 LINELEN(line-length)
 [PAGE]
 [SINGLE|DOUBLE|TRIPLE]
 [OVERSTRK]
 [CC]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('LIST ', dialog-variable-name, line-length
 [, 'PAGE ']
 [, 'SINGLE ' | 'DOUBLE ' | 'TRIPLE ']
 [, 'OVERSTRK']
 [, 'CC ']);
```

**Return Codes**

- 0 Normal completion.
- 8 Maximum line length or data set LRECL exceeded; data has been truncated.
- 12 Specified dialog variable not found.
- 20 Severe error.

**LMCLOSE – Close a Data Set****Command Invocation Format**

```
ISPEXEC LMCLOSE DATAID(data-id)
```

**Call Invocation Format**

```
CALL ISPLINK ('LMCLOSE ',data-id);
```

*OR*

```
CALL ISPEXEC (buf-len, buffer);
```

**Return Codes**

- 0 Normal completion.
- 8 Data set is not open.
- 10 No ISPF library or data set is associated with the given data ID; that is, LMINIT has not been completed.
- 20 Severe error; unable to continue.

**LMCOMP – Compresses a Partitioned Data Set****Command Invocation Format**

```
ISPEXEC LMCOMP DATAID(data-id)
```

**Call Invocation Format**

```
CALL ISPLINK ('LMCOMP ',data-id);
```

*OR*

```
CALL ISPEXEC (buf-len,buffer);
```

**Return Codes**

- 0 Successful completion.
- 10 No data set is associated with the given data ID.
- 12 One of the following:
  - Data set not partitioned.
  - Data set specified not allocated.
  - Data set is open.
  - Data set is not movable.
  - Data set must be allocated exclusively. Use ENQ(EXCLU) in LMINIT service
  - Concatenated libraries are not allowed for LMCOMP
- 20 Severe error; unable to continue.

## LMCOPY – Copy Members of a Data Set

### Command Invocation Format

```
ISPEXEC LMCOPY FROMID(from-data-id)
 [FROMMEM(from-member-name)]
 TODATAID(to-data-id)
 [TOMEM(to-member-name)]
 [REPLACE]
 [PACK]
 [TRUNC]
 [LOCK]
 [SCLMSET(YES|NO)]
 [ALIAS|NOALIAS]
```

### Call Invocation Format

```
CALL ISPLINK ('LMCOPY ', from-data-id
 ,[from-member-name]
 ,to-data-id
 ,[to-member-name]
 ,['REPLACE ']
 ,['PACK ']
 ,['TRUNC ']
 ,['LOCK ']
 ,['YES ' | 'NO ' | ' ']
 ,['ALIAS ' | 'NOALIAS ']);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

### Return Codes

- 0 Normal completion.
- 4 Member not available:
  - The member is in a controlled ISPF library and is currently owned by another user.
  - The member is in a controlled ISPF library and the user is not a valid user as specified by member access ID.
  - Lock was requested but the project is SCLM-controlled.
  - “From” library not LMF-controlled.
  - “From” data set is empty.
  - No members matched the specified pattern in the “from” data set.
- 8 “From” member not found.
- 10 No data set is associated with the given data ID.
- 12 One of the following:
  - Invalid data set organization.
  - Data set attribute invalid for copying or copying packed data.
  - Open error.
  - A like named member already exists in the ‘TO’ data set, and the Replace option was not specified.
  - One or more members of the ‘TO’ data set are “in use” by you or another user and could not be copied.
- 16 Truncation error.
- 20 Severe error; unable to continue.

## LMDDISP – Data Set Display Service

### Command Invocation Format

```
ISPEXEC LMDDISP LISTID(dslist-id)
 [VIEW(VOLUME|SPACE|ATTRIB|TOTAL)]
 [CONFIRM(YES|NO)]
 [PANEL(panel-name)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len,buffer);
```

OR

```
CALL ISPLINK('LMDDISP ', dslist-id
 , ['VOLUME ' | 'SPACE ' | 'ATTRIB ' | 'TOTAL ']
 , ['YES ' | 'NO ']
 , [panel-name]);
```

### Return Codes

- 0 Normal completion.
- 10 A data set list does not exist for the list-id specified via keyword LISTID.
- 12 Invalid parameter value.
- 20 A severe error occurred while processing the data set list.

## LMDFREE – Free a Data Set List

### Command Invocation Format

```
ISPEXEC LMDFREE LISTID(list-id-var)
```

### Call Invocation Format

```
CALL ISPLINK ('LMDFREE ',list-id);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 8 Free dslist-id failed. The error condition is described in “Dialog Error” on page 139.
- 10 No data set level or volume is associated with the given dslist-id. LMDINIT has not been completed.
- 20 Severe error; unable to continue.

## LMDINIT – Initialize a Data Set List

### Command Invocation Format

```
ISPEXEC LMDINIT LISTID(dslist-id-var)
 {LEVEL(dsname-level)}
 {VOLUME(volume-serial)}
```

### Call Invocation Format

```
CALL ISPLINK ('LMDINIT ',dslist-id-var
 ,{dsname-level}
 ,{volume-serial});
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion. The unique dslid-id is returned in the variable specified in keyword LISTID.
- 8 Dslid-id not created; the error condition is described “Dialog Error” on page 139.
- 12 A keyword value is incorrect.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

## LMDLIST – List a Data Set

### Command Invocation Format

```
ISPEXEC LMDLIST LISTID(dslid-id)
 OPTION(LIST|FREE|SAVE)
 DATASET(dataset-var)
 [STATS(Yes|NO)]
 [GROUP(group)]
```

### Call Invocation Format

```
CALL ISPLINK ('LMDLIST ' ,dslid-id
 , 'LIST ' | 'FREE ' | 'SAVE '
 , dataset-var
 , ['YES ' | 'NO ']
 , [group]
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 One of the following:
  - LIST option - Normal completion. The name of the next data set in the list is returned in the variable specified in keyword DATASET. Data set statistics are returned, if requested.
  - FREE option - Normal completion. The internal storage associated with the data set is freed.
  - SAVE option - Normal completion. The data set list has been successfully written to a data set.
- 4 No data sets matched specified search criteria (the values for keywords LEVEL and VOLUME on the LMDINIT service).
- 8 End of data set list.
- 10 Data set list does not exist for list-id.
- 12 A keyword value is incorrect.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

## LMERASE – Erase a Data Set

### Command Invocation Format

```
ISPEXEC LMERASE {PROJECT(project)
 GROUP(group)
 TYPE(type) }
```



```
{DATASET(dataset)}
[PURGE(YES|NO)]
[VOLUME(volume)]
[PASSWORD(password)]
```

### Call Invocation Format

```
CALL ISPLINK('LMERASE ',{project
 ,group
 ,type }
 ,{dataset}
 ,['YES ' | 'NO ']);
 ,[volume]
 ,[password]);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 8 One of the following:
  - Specified data set is not cataloged.
  - Erase data set failed.
  - Data set has not expired yet.
  - Data set name is an alias.
  - No data set specified as input
  - PROJECT specified, but GROUP or TYPE not specified.
- 12 Expiration data not expired and PURGE (NO) specified.
- 20 Severe error; unable to continue.

## LMFREE – Free Data Set from its Association with Data ID

### Command Invocation Format

```
ISPEXEC LMFREE DATAID(data-id)
```

### Call Invocation Format

```
CALL ISPLINK ('LMFREE ',data-id);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 8 Free data ID failed; the error condition is described “Dialog Error” on page 139.
- 10 No ISPF library or data set is associated with the given data ID; that is, LMINIT has not been completed.
- 20 Severe error; unable to continue.

## LMGET – Read a Logical Record from a Data Set

### Command Invocation Format

```
ISPEXEC LMGET DATAID(data-id)
 MODE(MOVE|LOCATE|INVAR|MULTX)
 DATALOC(data-loc-var)
 DATALEN(data-len-var)
 MAXLEN(max-length)
```

### Call Invocation Format

```
CALL ISPLINK ('LMGET ',data-id
 , 'MOVE ' | 'LOCATE ' | 'INVAR ' | 'MULTX '
 ,dataloc-var
 ,datalen-var
 ,max-length);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 8 End-of-data set condition; no message formatted.
- 10 No ISPF library or data set associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
  - The data set is not open or is not open for input.
  - An LMMFIND was not done for a partitioned data set.
  - The parameter value is invalid.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

## LMINIT – Generate a Data ID for a Data Set

### Command Invocation Format

```
ISPEXEC LMINIT DATAID(data-id-var)

 {PROJECT(project) GROUP1(group1) TYPE(type)
 [GROUP2(group2)] [GROUP3(group3)] [GROUP4(group4)]}
 {DATASET(dsname)
 {DDNAME(ddname)
 [VOLUME(serial)] [PASSWORD(password)]
 [ENQ(SHR|EXCLU|SHRW|MOD)] [ORG(org-var)]
```

### Call Invocation Format

```
CALL ISPLINK ('LMINIT ', data-id-var
 ,{project,group1 [,group2]
 [,group3] [,group4] ,type}
 ,{dsname
 }
 ,{ddname
 }
 ,[serial] ,[password]
 ,['SHR ' | 'EXCLU ' | 'SHRW ' | 'MOD '] ,[org-var]);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

### Return Codes

- 0 Normal completion.
- 8 Data ID not created.
- 12 The parameter value is invalid.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

## LMMADD – Add a Member to a Data Set

### Command Invocation Format

```
ISPEXEC LMMADD DATAID(data-id)
 MEMBER(member-name)
 [STATS(YES|NO)]
 [NOENQ]
```

### Call Invocation Format

```
CALL ISPLINK ('LMMADD ' ,data-id
 ,member-name
 ,['YES' '| 'NO'])
 ,['NOENQ']);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 4 Directory already contains the specified name.
- 10 No ISPF library or MVS data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
  - The data set is not open or is not open for output.
  - The parameter value is invalid.
  - The data set organization is invalid.
  - The values for some member statistics are invalid.
- 14 No record has been written for the member to be added.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

## LMMDEL – Delete Members from a Data Set

### Command Invocation Format

```
ISPEXEC LMMDEL DATAID(data-id)
 MEMBER(member-name)
 [NOENQ]
```

### Call Invocation Format

```
CALL ISPLINK('LMMDEL ' ,data-id
 ,member-name)
 ,['NOENQ']);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 8 Member not found.
- 10 No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
  - The data set is not open or is not open for output.
  - The parameter value is invalid.
  - The data set organization is invalid.

20 Severe error; unable to continue.

## LMMDISP – Member List Service

## Display Option

### Command Invocation Format:

```
ISPEXEC LMMDISP DATAID(data-id)
[OPTION(DISPLAY)]
[MEMBER(pattern)]
[STATS(YES|NO)]
[PANEL(panel-name)]
[CURSOR(ZCMD|ZLLCMD|ZLUDATA)]
[TOP(top-row)]
[COMMANDS(S|ANY)]
[FIELD(I|9)]
[ALLOWNEW]
```

### Call Invocation Format:

```
CALL ISPLINK('LMMDISP ', data-id
, ['DISPLAY ']
, [pattern]
, ['YES ' | 'NO ']
, [panel-name]
, ['ZCMD ' | 'ZLLCMD ' | 'ZLUDATA ']
, [top-row]
, ' '
, ' '
, ['S ' | 'ANY ']
, [I|9]
, ['ALLOWNEW'];
```

*OR*

```
CALL ISPEXEC (buf-len,buffer);
```

### Return Codes:

- |    |                                                                                                                                                                                                                                                                        |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | One or more members were selected or a primary command not recognized by LMMDISP was entered.                                                                                                                                                                          |
| 4  | The requested data sets were empty, or no members matched the specified pattern.                                                                                                                                                                                       |
| 8  | END or RETURN was entered.                                                                                                                                                                                                                                             |
| 10 | No data set is associated with the given data ID; LMINIT has not been completed.                                                                                                                                                                                       |
| 12 | Indicates one of the following conditions: <ul style="list-style-type: none"><li>• Data sets not open.</li><li>• Data sets not partitioned.</li><li>• Invalid parameter value.</li><li>• Invalid data set organization.</li><li>• Invalid invocation syntax.</li></ul> |
| 16 | Truncation or translation error in accessing dialog variables.                                                                                                                                                                                                         |
| 20 | Severe error; unable to continue.                                                                                                                                                                                                                                      |

## GET Option

### Command Invocation Format:

```
ISPEXEC LMMDISP DATAID(data-id)
 OPTION(GET)
 [STATS(YES|NO)]
```

**Call Invocation Format:**

```
CALL ISPLINK('LMMDISP ', data-id
 , 'GET '
 , ' '
 , ['YES ' | 'NO ']);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

**Return Codes:**

- 0        Successful completion.
- 8        No more selected members.
- 10       No data set is associated with the given data ID; LMINIT has not been completed.
- 12       Indicates one of the following conditions:
  - Data sets not open.
  - Data sets not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.
  - Invalid invocation syntax.
  - Member list has not been created.
- 16       Truncation or translation error in accessing dialog variables.
- 20       Severe error; unable to continue.

**PUT Option****Command Invocation Format:**

```
ISPEXEC LMMDISP DATAID(data-id)
 OPTION(PUT)
 MEMBER(member-name)
 [ZLLCMD(lcmd-value)]
 [ZLUDATA(udata-value)]
```

**Call Invocation Format:**

```
CALL ISPLINK('LMMDISP ', data-id
 , 'PUT '
 , member-name
 , ' '
 , ' '
 , ' '
 , ' '
 , ' '
 , [lcmd-value]
 , [udata-value]);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

**Return Codes:**

- 0        Successful completion.
- 8        Specified member does not exist.
- 10       No data set is associated with the given data ID; LMINIT has not been completed.
- 12       Indicates one of the following conditions:
  - Data sets not open.
  - Data sets not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.

- Invalid invocation syntax.
  - Member list has not been created.
- 16      Truncation or translation error in accessing dialog variables.  
20      Severe error; unable to continue.

### ADD Option

#### Command Invocation Format:

```
ISPEXEC LMMDISP DATAID(data-id)
 OPTION(ADD)
 MEMBER(member-name)
 [ZLLCMD(lcmd-value)]
 [ZLUDATA(udata-value)]
```

#### Call Invocation Format:

```
CALL ISPLINK('LMMDISP ', data-id
 , 'ADD '
 , member-name
 , ' '
 , ' '
 , ' '
 , ' '
 , ' '
 , ' '
 , [lcmd-value]
 , [udata-value]);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

#### Return Codes:

- 0      Successful completion.
- 8      Member already exists in member list.
- 10     No data set is associated with the given data ID; LMINIT has not been completed.
- 12     Indicates one of the following conditions:
- Data sets not open.
  - Data sets not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.
  - Invalid invocation syntax.
  - Member list has not been created.
- 16     Truncation or translation error in accessing dialog variables.
- 20     Severe error; unable to continue.

### DELETE Option

#### Command Invocation Format:

```
ISPEXEC LMMDISP DATAID(data-id)
 OPTION(DELETE)
 MEMBER(member-name)
```

#### Call Invocation Format:

```
CALL ISPLINK('LMMDISP ', data-id
 , 'DELETE '
 , member-name);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

**Return Codes:**

- 0 Successful completion.
- 8 A specified member does not exist in the member list.
- 10 No data set is associated with the given data ID; LMINIT has not been completed.
- 12 Indicates one of the following conditions:
  - Data sets not open.
  - Data sets not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.
  - Invalid invocation syntax.
  - Member list has not been created.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

**FREE Option****Command Invocation Format:**

```
ISPEXEC LMMDISP DATAID(data-id)
 OPTION(FREE)
```

**Call Invocation Format:**

```
CALL ISPLINK('LMMDISP ', data-id
 , 'FREE ');
```

*OR*

```
CALL ISPEXEC (buf-len,buffer);
```

**Return Codes:**

- 0 Successful completion.
- 8 No member list is associated with the given data ID.
- 10 No data set is associated with the given data ID; LMINIT has not been completed.
- 12 Indicates one of the following conditions:
  - Data sets not open.
  - Data sets not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.
  - Invalid invocation syntax.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

**LMMFIND – Find a Library Member****Command Invocation Format**

```
ISPEXEC LMMFIND DATAID(data-id)
 MEMBER(member-name)
 [LOCK]
 [LRECL(1rec1-var)]
 [RECFM(recfm-var)]
 [GROUP(group-var)]
 [STATS(YES|NO)]
 [NOLLA]
```

|

**Call Invocation Format**

```
CALL ISPLINK ('LMMFIND ',data-id
 ,member-name
 ,['LOCK ']
 ,[rec1-var]
 ,[recfm-var]
 ,[group-var]
 ,['YES ']|'NO ']
 ,['NOLLA ']);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

**Return Codes**

- 0     Normal completion. If you specify LOCK and the member is in a controlled ISPF library, a return code of zero shows that the user is a valid user as specified by the member access ID. The member is available and is now currently owned by the user. The member is not available for updating by any other user. For more information about the member access ID, see *ISPF Library Management Facility*.
- 4     One of the following:
  - Member not available; the member resides in a controlled ISPF library and is currently owned by another user.
  - Member not available; the member resides in a controlled ISPF library, and the user is not a valid user as specified by the member access ID.
  - Lock was requested but the project is SCLM-controlled.
- 8     Member not found.
- 10    No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12    One of the following:
  - Data set is not open or is not open for input.
  - The parameter value is invalid.
  - Data set is not partitioned.
- 16    Truncation or translation error in accessing dialog variables.
- 20    Severe error; unable to continue.

**LMMLIST – List a Library's Members****Command Invocation Format**

```
ISPEXEC LMMLIST DATAID(data-id)
 [OPTION(LIST|FREE|SAVE)]
 [MEMBER(member-var)]
 [STATS(YES|NO)]
 [GROUP(group)]
 [PATTERN(member-pattern)]
 [LONG]
```

**Call Invocation Format**

```
CALL ISPLINK ('LMMLIST ',data-id
 ,['LIST ']|'FREE ']|'SAVE ']
 ,[member-var]
 ,['YES ']|'NO ']
 ,[group])
 ,[member-pattern]
 ,[LONG]);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```



**Return Codes**

- 0 One of the following:
- LIST option - Normal completion. The member list is available and the next member in the list is returned in the member-var parameter.
  - FREE option - Normal completion. The member list is freed successfully.
  - SAVE option - Normal completion. The member list is successfully written to the data set.
- 4 Empty member list.
- 8 One of the following:
- LIST option - End of member list.
  - FREE option - Member list does not exist.
  - SAVE option - For a data ID, the LMMLIST service was invoked with the SAVE option after being invoked with the LIST option, but before being invoked with the FREE option.
- 10 No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
- The data set is not open or is not partitioned.
  - The parameter value is invalid.
  - Member list was created using LMMDISP.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

**LMMOVE – Move Members of a Data Set****Command Invocation Format**

```
ISPEXEC LMMOVE FROMID(from-data-id)
 [FROMMEM(from-member-name)]
 TODATAID(to-data-id)
 [TOMEM(to-member-name)]
 [REPLACE]
 [PACK]
 [TRUNC]
 [SCLMSET(YES|NO)]
 [ALIAS|NOALIAS]
```

**Call Invocation Format**

```
CALL ISPLINK ('LMMOVE ' ,from-data-id
 ,[from-member-name]
 ,to-data-id
 ,[to-member-name]
 ,['REPLACE ']
 ,['PACK ']
 ,['TRUNC ']
 ,['YES ' |'NO ' |' ']
 ,['ALIAS ' |'NOALIAS ']);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

**Return Codes**

- 0 Successful completion.
- 4 One of the following:
- “From” data set is empty.
  - No member matched the pattern in the “from” data set.
- 8 “From” member not found.
- 10 No data set is associated with given data ID.
- 12 One of the following:

- Invalid data set organization.
  - Data set attribute invalid for packed data.
  - Open error.
  - A like named member already exists in the 'TO' data set, and the Replace option was not specified.
  - One or more members of the 'TO' data set are "in use" by you or another user and could not be copied.
- 16      Truncation error.
- 20      Severe error; unable to continue.

## LMMREN – Rename a Data Set Member

### Command Invocation Format

```
ISPEXEC LMMREN DATAID(data-id)
 MEMBER(old-member-name)
 NEWNAME(new-member-name)
 [NOENQ]
```

### Call Invocation Format

```
CALL ISPLINK('LMMREN ',data-id
 ,old-member-name
 ,new-member-name)
 ,['NOENQ']);
```

*OR*

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0      Normal completion.
- 4      Directory already contains the specified new name.
- 8      Member not found.
- 10     No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12     One of the following:
- The data set is not open or is not open for output.
  - The parameter value is invalid.
  - The data set organization is invalid.
- 20     Severe error; unable to continue.

## LMMREP – Replace a Member of a Data Set

### Command Invocation Format

```
ISPEXEC LMMREP DATAID(data-id)
 MEMBER(member-name)
 [STATS(YES|NO)]
 [NOENQ]
```

### Call Invocation Format

```
CALL ISPLINK('LMMREP ',data-id
 ,member-name
 ,['YES' | 'NO'])
 ,['NOENQ']);
```

*OR*

```
CALL ISPEXEC (buf-len, buffer);
```

**Return Codes**

- 0 Normal completion.
- 8 Member is added; it did not previously exist.
- 10 No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
  - The data set is not open or is not open for output.
  - The parameter value is invalid.
  - The data set organization is invalid.
  - Some member statistics have invalid values.
- 14 No record has been written for the member to be replaced.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

**LMMSTATS – Set and Store ISPF Statistics****Command Invocation Format**

```
ISPEXEC LMMSTATS DATAID(data-id) MEMBER(member-name)
 [VERSION(version-number)]
 [MODLEVEL(mod-level)]
 [CREATED(create-date)]
 [MODDATE(last-modified-date)]
 [MODTIME(last-modified-time)]
 [CURSIZE(current-size)]
 [INITSIZE(initial-size)]
 [MODRECS(records-modified)]
 [USER(user-id)]
 [DELETE]
 [CREATED4(4-char-year-create-date)]
 [MODDATE4(4-char-year-last-modified-date)]
 [SCLM(ON|OFF|ASIS)]
 [NOLLA]
```

**Call Invocation Format**

```
CALL ISPLINK ('LMMSTATS',data-id
 ,member-name
 ,[version-number]
 ,[mod-level]
 ,[create-date]
 ,[last-modified-date]
 ,[last-modified-time]
 ,[current-size]
 ,[initial-size]
 ,[records-modified]
 ,[user-id]
 ,['DELETE '])
 ,[4-char-year-create-date]
 ,[4-char-year-last-modified-date]
 ,[ON|OFF|ASIS]
 ,['NOLLA ']);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

**Return Codes**

- 0 Normal completion.
- 4 One of the following:
  - Data set is empty.
  - No members matched the pattern.
- 8 Member not found.

- 10 No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
  - Invalid parameter value.
  - Data set is not partitioned.
  - Data ID represents a concatenation of data sets.
  - Data set is open for output.
- 20 Severe error; unable to continue.

## LMOPEN – Open a Data Set

### Command Invocation Format

```
ISPEXEC LMOOPEN DATAID(data-id)
 [OPTION(INPUT|OUTPUT)]
 [LRECL(lrecl-var)]
 [RECFM(recfm-var)]
 [ORG(org-var)]
```

### Call Invocation Format

```
CALL ISPLINK ('LMOOPEN ',data-id
 ,['INPUT ' | 'OUTPUT ']
 ,[lrecl-var]
 ,[recfm-var]
 ,[org-var]);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 8 Data set could not be opened.
- 10 No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
  - The parameter value is invalid.
  - Data set is already open.
  - Cannot open concatenated data sets for output.
  - Cannot open a data set allocated SHR for output.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

## LMPRINT – Print a Partitioned or Sequential Data Set

### Command Invocation Format

```
ISPEXEC LMPRINT DATAID(data-id)
 [MEMBER(member-name)]
 [INDEX]
 [FORMAT(YES|NO)]
 [NOLLA]
```

### Call Invocation Format

```
CALL ISPLINK ('LMPRINT ',data-id
 ,[member-name]
 ,['INDEX ']
 ,['YES ' | 'NO ']
 ,['NOLLA ']);
```

OR

```
CALL ISPEXEC (buf-len,buffer);
```

### Return Codes

- 0 Normal completion.
- 4 One of the following:
  - Data set is empty.
  - No members matched the pattern.
- 8 Member not found.
- 10 No data set associated with given data ID.
- 12 One of the following:
  - Invalid data set organization; must be partitioned or sequential.
  - Invalid parameter.
- 20 Severe error; unable to continue.

## LMPUT – Write a Logical Record to a Data Set

### Command Invocation Format

```
ISPEXEC LMPUT DATAID(data-id)
 MODE(INVAR|MOVE|MULTX)
 DATALOC(data-loc-var)
 DATALEN(data-length)
 [NOBSCAN]
```

### Call Invocation Format

```
CALL ISPLINK ('LMPUT',data-id
 ,INVAR '|MOVE '|MULTX'
 ,data-loc-var
 ,data-length
 ,
 ,['NOBSCAN ']);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 10 No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12 One of the following:
  - The data set is not open or is not open for output.
  - The parameter value is invalid.
- 16 Truncation or translation error in accessing dialog variables.
- 20 Severe error; unable to continue.

## LMQUERY – Give a Dialog Information about a Data Set

### Command Invocation Format

```
ISPEXEC LMQUERY DATAID(data-id)
 [PROJECT(proj-var)]
 [GROUP1(group1-var)]
 [GROUP2(group2-var)]
 [GROUP3(group3-var)]
 [GROUP4(group4-var)]
 [TYPE(type-var)]
 [DATASET(dsn-var)]
```

```
[DDNAME(ddn-var)]
[VOLUME(serial-var)]
[ENQ(enq-var)]
[OPEN(open-var)]
[LRECL(lrecl-var)]
[RECFM(recfm-var)]
[DSORG(dsorg-var)]
[ALIAS(alias-var)]
[PASSWORD(password-var)]
[OVOLUME(ovolume-var)]
```

### Call Invocation Format

```
CALL ISPLINK ('LMQUERY ',data-id
 ,[proj-var]
 ,[group1-var]
 ,[group2-var]
 ,[group3-var]
 ,[group4-var]
 ,[type-var]
 ,[dsn-var]
 ,[ddn-var]
 ,[serial-var]
 ,[enq-var]
 ,[open-var]
 ,[lrecl-var]
 ,[recfm-var]
 ,[dsorg-var]
 ,[alias-var]
 ,[password-var]
 ,[ovolume-var]);
```

*OR*

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- |    |                                                                                           |
|----|-------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                        |
| 4  | No applicable information available for a specified keyword; blanks are returned.         |
| 10 | No data set is associated with the given data ID; that is, LMINIT has not been completed. |
| 16 | Truncation or translation error in accessing dialog variables.                            |
| 20 | Severe error; unable to continue.                                                         |

## LMRENAME – Rename an ISPF Library

### Command Invocation Format

```
ISPEXEC LMRENAME PROJECT(project)
 GROUP(group)
 TYPE(type)
 { [NEWPROJ(new-project)]
 [NEWGROUP(new-group)]
 [NEWTTYPE(new-type)] } }
```

### Call Invocation Format

```
CALL ISPLINK('LMRENAME',project
 ,group
 ,type
 ,{[new-project]
 [new-group]
 [new-type] }));
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion.
- 4 New name already exists.
- 8 One of the following:
  - Specified data set does not exist.
  - Rename or catalog failed.
  - Data set name is an alias.
- 12 The parameter value is invalid.
- 20 Severe error; unable to continue.

## LOG – Write a Message to the Log Data Set

### Command Invocation Format

```
ISPEXEC LOG MSG(message-id)
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('LOG ', message-id);
```

### Return Codes

- 0 Normal completion.
- 12 The message ID contains invalid syntax or was not found.
- 20 Severe error.

## MEMLIST – Member List Dialog

### Command Invocation Format

```
ISPEXEC MEMLIST DATAID(data-id)
 [MEMBER(pattern)]
 [CONFIRM(YES|NO)]
 [PANEL(panel-name)]
 [FIELD(1|9)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('MEMLIST ', data-id,
 [,pattern]
 [,YES|NO]
 [,panel-name]
 [,1|9]);
```

### Return Codes

- 0 Normal completion.
- 8 The requested data set was empty or no members matched the specified pattern.

- 10 No data set is associated with the given data ID. LMINIT has not been completed.
- 12 One of the following:
  - Data set not partitioned.
  - Parameter value not valid.
  - Invocation syntax not valid.
- 16 A truncation or translation error occurred in accessing dialog variables.
- 20 Severe error.

## PQUERY – Obtain Panel Information

### Command Invocation Format

```
ISPEXEC PQUERY PANEL(panel-name) AREANAME(area-name)
 [AREATYPE(area-type-name)]
 [WIDTH(area-width-name)]
 [DEPTH(area-depth-name)]
 [ROW(row-number-name)]
 [COLUMN(column-number-name)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('PQUERY ', panel-name, area-name
 [,area-type-name]
 [,area-width-name]
 [,area-depth-name]
 [,row-number-name]
 [,column-number-name]);
```

### Return Codes

- 0 Normal completion.
- 8 The panel does not contain the specified area.
- 12 The specified panel cannot be found.
- 16 Not all values are returned because insufficient space was provided.
- 20 Severe error.

## QBASELIB – Query Base Library Information

### Command Invocation Format

```
ISPEXEC QBASELIB dd-name [ID(id-var)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('QBASELIB',dd-name[,id-var]);
```

### Return Codes

- 0 A DDNAME for the specified ddname exists and the requested information, if any, has been successfully returned.
- 4 The specified dd-name is not valid.
- 16 A dialog variable translation or truncation error has occurred.
- 20 A severe error has occurred.



## QLIBDEF – Query LIBDEF Definition Information

### Command Invocation Format

```
ISPEXEC QLIBDEF lib-type [TYPE(type-var)] [ID(id-var)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('QLIBDEF ',lib-type,[,type-var][,id-var]);
```

### Return Codes

- 0 A LIBDEF definition for the specified lib-type exists and the requested information, if any, has been successfully returned.
- 4 The specified lib-type does not have an active LIBDEF definition.
- 12 An invalid lib-type value of ISPPROF has been specified.
- 16 A dialog variable translation or truncation error has occurred.
- 20 A severe error has occurred.

## QTABOPEN – Query Open ISPF Tables

### Command Invocation Format

```
ISPEXEC QTABOPEN LIST(list-var)
```

### Call Invocation Format

```
CALL ISPLINK ('QTABOPEN ',list-var);
```

### Return codes

The following return codes are possible:

- 0 Normal completion.
- 4 List incomplete. There was insufficient space to construct a valid variable name.
- 12 Prefix too long. List-var must be 7 characters or less.
- 20 Severe error.

## QUERYENQ – Query System ENQ Data

### Command Invocation Format

```
ISPEXEC QUERYENQ TABLE(table-name)
 QNAME(qname)
 RNAME(rname)
 REQ(pattern)
 WAIT
 LIMIT(limit)
 SAVE(list-id)
 XSYS
```

### Call Invocation Format

```
CALL ISPLINK ('QUERYENQ' ,table-name
 ,qname
 ,rname
 ,pattern
 ,['WAIT '])
 ,limit
```

```
,list-id
,['XSYS ']);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Variables Returned in Each Row of the Table

| Name     | Size | Description                                             |
|----------|------|---------------------------------------------------------|
| ZENJOB   | 8    | Job or address space name holding or requesting the ENQ |
| ZENQNAME | 8    | Qname portion of the ENQ                                |
| ZENRNAME | 255  | Rname portion of the ENQ                                |
| ZENDISP  | 5    | SHARE or EXCLU                                          |
| ZENHOLD  | 4    | OWN or WAIT                                             |
| ZENSCOPE | 7    | SYSTEM or SYSTEMS                                       |
| ZENSTEP  | 7    | STEP or blank                                           |
| ZENGLOBL | 6    | GLOBAL or blank                                         |
| ZENSYST  | 8    | System name                                             |

### Return Codes

- 0 Table returned or data set written, but XSYS parameter was not specified and the system is running in STAR mode. The data returned may not reflect all ENQs on all systems.
- 2 Table returned or data set written.
- 4 Table returned but truncated due to limit.
- 8 No ENQs satisfy the request.
- 10 No ENQs satisfy the request, but XSYS parameter was not specified and the system is running in STAR mode. The data returned may not reflect all ENQs on all systems.
- 12 Table creation error, parameter or other termination error. See messages for more detail. This includes services not available due to configuration table restrictions.
- 14 The SAVE data set is in use by another user.
- 20 Severe error, including TBADD error or data set creation errors.

## REMPop – Remove a Pop-Up Window

### Command Invocation Format

```
ISPEXEC REMPOP [ALL]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('REMPop ' [, 'ALL ']);
```

### Return codes

- 0 Normal completion.
- 16 A pop-up window does not exist at this select level.
- 20 Severe error.

## SELECT – Select a Panel or Function

### Command Invocation Format

```
ISPEXEC SELECT { PANEL(panel-name) [OPT(option)] [ADDPop] }
 {
 { CMD(command) [LANG(APL|CREX)]
 { [MODE(LINE|FSCR)]
 { [BARRIER]
 { [NEST]
 {
 { PGM(program-name) [PARM(parameters)]
 { [MODE(LINE|FSCR)]
 { WSCMD(workstation-command)
 { [MODAL|MODELESS]
 { [WSDIR(DIR)]
 { [MAX|MIN]
 { [VIS|INVIS]
 { WSCMDV(var_name)
 { [MODAL|MODELESS]
 { [WSDIR(DIR)]
 { [MAX|MIN]
 { [VIS|INVIS]
 {
 { [NEWAPPL [(application-id)] [PASSLIB]] | [NEWPOOL] [SUSPEND]
 { [SCRNAME(screen-name)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('SELECT ', length, keywords);
```

Note: parameters that can appear in *keywords* are:

```
{ PANEL(panel-name) [OPT(option)] [ADDPop] }
{
{ CMD(command) [LANG(APL|CREX)]
{ [MODE(LINE|FSCR)]
{ [BARRIER]
{ [NEST]
{
{ PGM(program-name) [PARM(parameters)]
{ [MODE(LINE|FSCR)]
{ WSCMD(workstation-command)
{ [MODAL|MODELESS]
{ [WSDIR(DIR)]
{ [MAX|MIN]
{ [VIS|INVIS]
{ WSCMDV(var_name)
{ [MODAL|MODELESS]
{ [WSDIR(DIR)]
{ [MAX|MIN]
{ [VIS|INVIS]
{
{ [NEWAPPL [(application-id)] [PASSLIB]] | [NEWPOOL] [SUSPEND]
{ [SCRNAME(screen-name)]
```

### Return Codes

The following return codes are possible if a panel is specified:

- 0 Normal completion. The END command was entered from the selected menu.

## SELECT service

- 4 Normal completion. The RETURN command was entered or the EXIT option was specified from the selected menu or from some lower-level menu.
- 12 The specified panel could not be found.
- 16 Truncation error in storing the ZCMD or ZSEL variable.
- 20 Severe error.

### Notes:

1. A return code of 0 is returned when the SELECT service has been coded with no other parameters.
2. If a command or program is invoked by using SELECT, the return code from the command or program is passed to the function that invoked SELECT.

The following return codes are possible from a MODAL workstation command:

- 20 Parameter or syntax on SELECT service (all SELECTs) is not valid.
- 41 A null command was passed to the workstation.
- 42 ISPF was not able to start the command at the workstation.
- 43 Remote execution of commands was not allowed by the user.

### OTHER

The return code from the workstation command + 100 if the return code from the workstation command was > 0.

## SETMSG – Set Next Message

### Command Invocation Format

```
ISPEXEC SETMSG MSG(message-id)
 [COND]
 [MSGLOC(message-field-name)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('SETMSG ', message-id [, 'COND ']
 [, message-field-name]);
```

### Return Codes

- 0 Normal completion.
- 4 SETMSG with COND parameter issued and a SETMSG request was pending.
- 12 The specified message field name or message could not be found.
- 20 Severe error.

## TBADD – Add a Row to a Table

### Command Invocation Format

```
ISPEXEC TBADD table-name
 [SAVE(name-list)]
 [ORDER]
 [MULT(number-of-rows)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBADD ', table-name
 [,name-list]
 [, 'ORDER ']
 [,number-of-rows]);
```

### Return Codes

- 0 Normal completion.
- 4 The number-of-rows parameter was specified but storage was obtained for only a single row.
- 8 A row with the same key already exists; CRP set to TOP (zero). Returned only for tables with keys.
- 12 Table is not open.
- 16 Numeric convert error; see numeric restrictions for TBSORT. Returned only for sorted tables.
- 20 Severe error.

## TBBOTTOM – Set the Row Pointer to Bottom

### Command Invocation Format

```
ISPEXEC TBBOTTOM table-name [SAVENAME(var-name)]
 [ROWID(rowid-name)]
 [NOREAD]
 [POSITION(crp-name)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBBOTTOM', table-name [,var-name]
 [,rowid-name]
 [, 'NOREAD ']
 [,crp-name]);
```

### Return Codes

- 0 Normal completion.
- 8 Table is empty; CRP set to TOP (zero).
- 12 Table is not open.
- 16 Variable value has been truncated, or insufficient space was provided to return all extension variable names.
- 20 Severe error.

## TBCLOSE – Close and Save a Table

### Command Invocation Format

```
ISPEXEC TBCLOSE table-name [NEWCOPY|REPLCOPY]
 [NAME(alt-name)]
 [PAD(percentage)]
 [LIBRARY(library)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

## TBCLOSE service

```
CALL ISPLINK ('TBCLOSE ', table-name [, 'NEWCOPY ' | 'REPLCOPY']
 [, alt-name]
 [, percentage]
 [, library]);
```

### Return Codes

- 0 Normal completion.
- 12 Table is not open.
- 16 Alternate table output library was not allocated.
- 20 Severe error.

## TBCREATE – Create a New Table

### Command Invocation Format

```
ISPEXEC TBCREATE table-name [KEYS(key-name-list)]
 [NAMES(name-list)]
 [WRITE|NOWRITE]
 [REPLACE]
 [LIBRARY(library)]
 [SHARE]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBCREATE', table-name [, key-name-list]
 [, name-list]
 [, 'WRITE ' | 'NOWRITE ']
 [, 'REPLACE ']
 [, library]
 [, 'SHARE ']);
```

### Return Codes

- 0 Normal completion.
- 4 Normal completion—a duplicate table exists but REPLACE was specified.
- 8 Either the table already exists and REPLACE was not specified, or REPLACE was specified and the table is in SHARE mode.
- 12 Table in use; ENQ failed.
- 16 WRITE mode specified and alternate table input library not allocated. TBCREATE checks the input library to determine if a duplicate table exists. See return code 8.
- 20 Severe error.

## TBDELETE – Delete a Row from a Table

### Command Invocation Format

```
ISPEXEC TBDELETE table-name
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBDELETE', table-name);
```

**Return Codes**

- 0 Normal completion.
- 8 Keyed tables: the row specified by the value in key variables does not exist; CRP set to TOP (zero). Non-keyed tables: CRP was at TOP (zero) and remains at TOP.
- 12 Table is not open.
- 20 Severe error.

**TBDISPL – Display Table Information****Command Invocation Format**

```
ISPEXEC TBDISPL table-name [PANEL(panel-name)]
 [MSG(message-id)]
 [CURSOR(field-name)]
 [CSRROW(table-row-number)]
 [CSRPOS(cursor-position)]
 [AUTOSEL(YES|NO)]
 [POSITION(crp-name)]
 [ROWID(rowid-name)]
 [MSGLOC(message-field-name)]
```

**Call Invocation Format**

```
CALL ISPEXEC (buf-len, buffer);
CALL ISPLINK ('TBDISPL ', table-name [,panel-name]
 [,message-id]
 [,field-name]
 [,table-row-number]
 [,cursor-position]
 [, 'YES' | 'NO']
 [,crp-name]
 [,rowid-name]
 [,message-field-name]);
```

**Return Codes**

- 0 If the panel definition contains neither a )REINIT nor a )PROC section, the Enter key was pressed, or a scroll command was entered. Any of the following occurred:
  - One row was selected in the scrollable part of the display. The CRP is set to point to that table row and the row is retrieved. The input fields from the selected model set on the display are then stored in the function pool.
  - The user entered information into the fixed portion of the display.
  - All of the following:
    - A scroll return to function has been specified (ZTDRET defined to UP, DOWN, or VERTICAL).
    - More rows are needed to fill a scroll request.
    - No selected rows remain to be processed.

If the panel definition contains a )REINIT or )PROC section, there is the additional possibility that the user entered no information and just pressed Enter.

- 4 The Enter key was pressed or a scroll command was entered. The first or both of the following occurred:

- Two or more rows in the scrollable part of the display were selected. The CRP is set to the first selected row and the row is retrieved. The input fields from the selected model set on the display are then stored in the function pool.
- The user entered information into the fixed portion of the display.
- If scroll return to function has been specified, and two or more rows are selected for processing, TBDISPL returns a return code 4 until all selected rows are processed. You process the request for more rows to be added to the table only after all selected rows have been processed; that is, only when ZTDSELS has a value of 0.

For subsequent TBDISPL requests with no panel name and no message ID, return code 4 is issued for each request until one selected row remains to be accessed. For this last row, a return code of zero is issued by TBDISPL, still specified with no panel name and no message ID. The variable ZTDSELS will have a value of one.

- 8 The END or RETURN command was entered. For panels created by the tag conversion utility, CANCEL and EXIT commands also give a return code of 8. If CANCEL and EXIT are requested from a panel displayed using TBDISPL service calls and the panel was defined with dialog tag language (DTL), the dialog manager returns the command in ZVERB and sets a return code of 8 from the display screen. The CRP is set to the first of any selected rows in the scrollable part of the display. The input fields from the selected model set on the display are then stored in the function pool. If no rows were selected, the CRP is at the top (zero). To process all selected rows when END or RETURN was entered, continue to issue TBDISPL requests with no panel name or message ID specified until ZTDSELS is one.

If the user enters the END command on a table display panel, a subsequent redisplay will result in a return code of 8.

The user may have entered information into the fixed portion of the display.

- 12 The specified panel, message, cursor field, or message location field could not be found.
- 16 Truncation or translation error in storing defined variables.
- 20 Severe error.

## TBEND – Close a Table without Saving

### Command Invocation Format

```
ISPEXEC TBEND table-name
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBEND ', table-name);
```

### Return Codes

- 0 Normal completion.
- 12 Table is not open.



20 Severe error.

## TBERASE – Erase a Table

### Command Invocation Format

```
ISPEXEC TBERASE table-name [LIBRARY(library)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBERASE ', table-name [,library]);
```

### Return Codes

|    |                                             |
|----|---------------------------------------------|
| 0  | Normal completion.                          |
| 8  | Table does not exist in the output library. |
| 12 | Table in use; ENQ failed.                   |
| 16 | Table output library not allocated.         |
| 20 | Severe error.                               |

## TBEXIST – Determine Whether a Row Exists in a Table

### Command Invocation Format

```
ISPEXEC TBEXIST table-name
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBEXIST ', table-name);
```

### Return Codes

|    |                                                                                                                                                 |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion; the CRP is positioned to the specified row.                                                                                  |
| 8  | Keyed tables: the specified row does not exist; the CRP is set to TOP (zero).<br>Non-keyed tables: service not possible; the CRP is set to TOP. |
| 12 | Table is not open.                                                                                                                              |
| 20 | Severe error.                                                                                                                                   |

## TBGET – Retrieve a Row from a Table

### Command Invocation Format

```
ISPEXEC TBGET table-name [SAVENAME(var-name)]
 [ROWID(rowid-name)]
 [NOREAD]
 [POSITION(crp-name)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBGET ', table-name [,var-name]
```

```
[,rowid-name]
[, 'NOREAD ']
[,crp-name]);
```

### Return Codes

- 0 Normal completion.
- 8 Keyed tables: The row specified by the value in the key variables does not exist; the CRP is set to TOP (zero). Non-keyed tables: the CRP was at TOP and remains at TOP.
- 12 Table is not open.
- 16 Variable value has been truncated, or insufficient space was provided to return all extension variable names.
- 20 Severe error.

## TBMOD – Modify a Row in a Table

### Command Invocation Format

```
ISPEXEC TBMOD table-name [SAVE(name-list)]
 [ORDER]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBMOD ', table-name [,name-list]
 ['ORDER ']);
```

### Return Codes

- 0 Normal completion. Keyed tables: Existing row was updated. Non-keyed tables: New row was added to table.
- 8 Keys did not match; new row was added to the table. Returned only for tables with keys.
- 12 Table is not open.
- 16 Numeric conversion error; see numeric restrictions for TBSORT. Returned only for sorted tables.
- 20 Severe error.

## TBOPEN – Open a Table

### Command Invocation Format

```
ISPEXEC TBOPEN table-name [WRITE|NOWRITE]
 [LIBRARY(library)]
 [SHARE]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBOPEN ', table-name [, 'WRITE ' | 'NOWRITE ']
 [, library]
 [, 'SHARE ']);
```

**Return Codes**

- 0 Normal completion.
- 8 Table does not exist.
- 12 ENQ failed; table was in use by another user or the current user.
- 16 Table input library was not allocated.
- 20 Severe error.

**TBPUT – Update a Row in a Table****Command Invocation Format**

```
ISPEXEC TBPUT table-name [SAVE(name-list)]
 [ORDER]
```

**Call Invocation Format**

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBPUT ', table-name [,name-list]
 [, 'ORDER ']);
```

**Return Codes**

- 0 Normal completion.
- 8 Keyed tables: the key does not match that of the current row; CRP set to TOP (zero). Non-keyed tables: CRP was at TOP and remains at TOP.
- 12 Table is not open.
- 16 For sorted tables: numeric conversion error; see numeric restrictions for TBSORT.
- 20 Severe error.

**TBQUERY – Obtain Table Information****Command Invocation Format**

```
ISPEXEC TBQUERY table-name [KEYS(key-name)]
 [NAMES(var-name)]
 [ROWNUM(rownum-name)]
 [KEYNUM(keynum-name)]
 [NAMENUM(namenum-name)]
 [POSITION(crp-name)]
 [SORTFLDS(srt-name)]
 [SARGLIST(1st-name)]
 [SARGCOND(cond-name)]
 [SARGDIR(dir-name)]
```

**Call Invocation Format**

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBQUERY ', table-name [,key-name]
 [,var-name]
 [,rownum-name]
 [,keynum-name]
 [,namenum-name]
 [,crp-name]
 [,srt-name]
```

```
[,lst-name]
[,cond-name]
[,dir-name]);
```

### Return Codes

- 0 Normal completion.
- 12 Table is not open.
- 16 Not all keys or names were returned because insufficient space was provided.
- 20 Severe error.

## TBSARG – Define a Search Argument

### Command Invocation Format

```
ISPEXEC TBSARG table-name [ARGLIST(name-list)]
 [NEXT|PREVIOUS]
 [NAMECOND(name-cond-pairs)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBSARG ', table-name
 [,name-list]
 [,'NEXT' | 'PREVIOUS']
 [,name-cond-pairs]);
```

### Return Codes

- 0 Normal completion.
- 8 All column variables are null and the name-list parameter was not specified; no argument is established.
- 12 Table is not open.
- 20 Severe error.

## TBSAVE – Save a Table

### Command Invocation Format

```
ISPEXEC TBSAVE table-name [NEWCOPY|REPLCOPY]
 [NAME(alt-name)]
 [PAD(percentage)]
 [LIBRARY(library)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBSAVE ', table-name, [,'NEWCOPY' | 'REPLCOPY']
 [,alt-name]
 [,percentage]
 [,library]);
```

### Return Codes

- 0 Normal completion.

- 12 Table is not open.
- 16 Alternate table output library was not allocated.
- 20 Severe error.

## TBSCAN – Search a Table

### Command Invocation Format

```
ISPEXEC TBSCAN table-name [ARGLIST(name-list)]
 [SAVENAME(var-name)]
 [ROWID(rowid-name)]
 [NEXT|PREVIOUS]
 [NOREAD]
 [POSITION(crp-name)]
 [CONDLIST(condition-value-list)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBSCAN ', table-name [,name-list]
 [,var-name]
 [,rowid-name]
 [, 'NEXT ' 'PREVIOUS']
 [, 'NOREAD ']
 [,crp-name]
 [,condition-value-list]);
```

### Return Codes

- 0 Normal completion.
- 8 Row does not exist, no match was found; CRP is set to TOP (zero). The row ID remains unchanged.
- 12 Table is not open.
- 16 Variable value has been truncated, or insufficient space is provided to return all extension variable names.
- 20 Severe error.

## TBSKIP – Move the Row Pointer

### Command Invocation Format

```
ISPEXEC TBSKIP table-name [NUMBER(number)]
 [SAVENAME(var-name)]
 [ROWID(rowid-name)]
 [ROW(rowid)]
 [NOREAD]
 [POSITION(crp-name)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBSKIP ', table-name [,number]
 [,var-name]
 [,rowid-name]
 [,rowid]
 [, 'NOREAD ']
 [,crp-name]);
```

- 0 Normal completion.

- 8 CRP would have gone beyond the number of rows in the table. This includes a table empty condition, with CRP set to TOP (zero). The row ID remains unchanged.
- 12 Table is not open.
- 16 Variable value has been truncated, or insufficient space is provided to return all extension variable names.
- 20 Severe error.

## TBSORT – Sort a Table

### Command Invocation Format

```
ISPEXEC TBSORT table-name FIELDS(sort-list)
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBSORT ', table-name, sort-list);
```

### Return Codes

- 0 Normal completion.
- 12 Table is not open.
- 16 Numeric convert error.
- 20 Severe error.

## TBSTATS – Retrieve Table Statistics

### Command Invocation Format

```
ISPEXEC TBSTATS table-name [CDATE(date-created-name)]
 [CTIME(time-created-name)]
 [UDATE(date-updated-name)]
 [UTIME(time-updated-name)]
 [USER(user-name)]
 [ROWCREAT(row-created-name)]
 [ROWCURR(rownum-name)]
 [ROWUPD(row-updated-name)]
 [TABLEUPD(table-updated-name)]
 [SERVICE(service-name)]
 [RETCODE(return-code-name)]
 [STATUS1(status1-name)]
 [STATUS2(status2-name)]
 [STATUS3(status3-name)]
 [LIBRARY(library)]
 [VIRTSIZE(virtual-storage-size-name)]
 [CDATE4D(date-created-name-4-digit)]
 [UDATE4D(date-updated-name-4-digit)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

*OR*

```
CALL ISPLINK ('TBSTATS ', table-name [,date-created-name]
 [,time-created-name]
 [,date-updated-name]
 [,time-updated-name]
 [,user-name]
 [,row-created-name]
```

```
[,rownum-name]
[,row-updated-name]
[,table-updated-name]
[,service-name]
[,return-code-name]
[,status1-name]
[,status2-name]
[,status3-name]
[,library]
[,virtual-storage-size-name]
[,date-created-name-4-digit]
[,date-updated-name-4-digit]);
```

### Return Codes

0 Normal completion (returned even if the table does not exist).  
 16 Variable value has been truncated.  
 20 Severe error.

## TBTOP – Set the Row Pointer to the Top

### Command Invocation Format

```
ISPEXEC TBTOP table-name
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBTOP ', table-name);
```

### Return Codes

0 Normal completion.  
 12 Table is not open.  
 20 Severe error.

## TBVCLEAR – Clear Table Variables

### Command Invocation Format

```
ISPEXEC TBVCLEAR table-name
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer);
```

OR

```
CALL ISPLINK ('TBVCLEAR', table-name);
```

### Return Codes

0 Normal completion.  
 12 Table is not open.  
 20 Severe error.

## TRANS – Translate Data from One Coded Character Set Identifier (CCSID) to Another

### Command Invocation Format

```
ISPEXEC TRANS FRMCCSID(from-ccsid-number)
 TOCCSID(to-ccsid-number)
 FROMVAR(from-variable-name)
 [TOVAR(to-variable-name)]
 [LENGTH(data-length)]
```

### Call Invocation Format

```
CALL ISPEXEC (buf-len, buffer)
```

OR

```
CALL ISPLINK ('TRANS ',from-ccsid-number,to-ccsid-number,
 from-variable-name
 [,to-variable-name]
 [,data-length]);
```

### Return Codes

- 0 Normal completion.
- 4 Translation tables do not support the requested 'to/from' combination.
- 8 From variable not found.
- 16 Variable services indicated a translation error or truncation occurred storing the translated data.
- 20 Severe error.

## VCOPY – Create a Copy of a Variable

### Command Invocation Format

```
ISPEXEC *This service does not apply to APL2 or command
 procedures*
```

### Call Invocation Format

```
CALL ISPEXEC *This service cannot be used with this interface*
```

OR

```
CALL ISPLINK ('VCOPY ', name-list, length-array, value-array
 [, 'LOCATE ' | 'MOVE ']);
```

### Return Codes

- 0 Normal completion.
- 8 One or more variables do not exist.
- 12 Validation failed.
- 16 Truncation has occurred during data movement (move mode only).
- 20 Severe error.

## VDEFINE – Define Function Variables

### Command Invocation Format

```
ISPEXEC *This service does not apply to APL2 or command
 procedures*
```

### Call Invocation Format

```
CALL ISPEXEC *This service cannot be used with this interface*
```

OR



```
CALL ISPLINK ('VDEFINE ', name-list, variable, format, length
 [,options-list]
 [,user-data]);
```

**Return Codes**

0 Normal completion.  
 8 Variable not found.  
 16 Data truncation occurred.  
 20 Severe error.

**VDELETE – Remove a Definition of Function Variables****Command Invocation Format**

ISPEXEC \*This service does not apply to APL2 or  
 command procedures\*

**Call Invocation Format**

CALL ISPEXEC \*This service cannot be used with this interface\*

OR

```
CALL ISPLINK ('VDELETE ', name-list|'* ');
```

**Return Codes**

0 Normal completion.  
 8 At least one variable not found.  
 20 Severe error.

**VERASE – Remove Variables from Shared and/or Profile Pool****Command Invocation Format**

```
ISPEXEC VERASE name-list
 [ASIS|SHARED|PROFILE|BOTH]
```

**Call Invocation Format**

CALL ISPEXEC (buf-len, buffer);

OR

```
CALL ISPLINK ('VERASE ', name-list
 [, 'ASIS ' | 'SHARED ' | 'PROFILE ' | 'BOTH ']);
```

**Return Codes**

0 Normal completion.  
 8 At least one variable not found.  
 20 Severe error.

**VGET – Retrieve Variables from a Pool or Profile****Command Invocation Format**

```
ISPEXEC VGET name-list [ASIS|SHARED|PROFILE]
```

**Call Invocation Format**

CALL ISPEXEC (buf-len, buffer);

OR

```
CALL ISPLINK ('VGET ', name-list
 [, 'ASIS ' | 'SHARED ' | 'PROFILE ']);
```

### Return Codes

|    |                                                                |
|----|----------------------------------------------------------------|
| 0  | Normal completion.                                             |
| 8  | Variable not found.                                            |
| 12 | Validation failed.                                             |
| 16 | Translation error or truncation occurred during data movement. |
| 20 | Severe error.                                                  |

## VIEW – View a Data Set

### Command Invocation Format

```
ISPEXEC VIEW DATASET(dsname) [VOLUME(serial)]
 [PASSWORD(pswd-value)]
 [PANEL(panel-name)]
 [MACRO(macro-name)]
 [PROFILE(profile-name)]
 [FORMAT(format-name)]
 [MIXED(YES|NO)]
 [CONFIRM(YES|NO)]
 [WS(YES|NO)]
 [CHGWARN(YES|NO)]
 [PARM(parm-var)]
```

OR

```
ISPEXEC VIEW DATAID(data-id) [MEMBER(member-name)]
 [PANEL(panel-name)]
 [MACRO(macro-name)]
 [PROFILE(profile-name)]
 [FORMAT(format-name)]
 [MIXED(YES|NO)]
 [CONFIRM(YES|NO)]
 [WS(YES|NO)]
 [CHGWARN(YES|NO)]
 [PARM(parm-var)]
```

OR

```
ISPEXEC VIEW WSFN(ws-filename) [PANEL(panel-name)]
 [MACRO(macro-name)]
 [PROFILE(profile-name)]
 [FORMAT(format-name)]
 [MIXED(YES|NO)]
 [CONFIRM(YES|NO)]
 [WS(YES|NO)]
 [CHGWARN(YES|NO)]
 [PARM(parm-var)]
```

### Call Invocation Format

```
CALL ISPLINK ('VIEW ', {dsname} ,[serial]
 ,[pswd-value]
 ,[panel-name]
 ,[macro-name]
 ,[profile-name]
 ,{data-id}
 ,[member-name]
 ,[format-name]
 ,['YES ' | 'NO ']
 ,['YES ' | 'NO '])
 ,{ws-filename-buffer-name}
 ,['YES' | 'NO']
```

```
,['YES'|'NO']
,[parm-var]);
```

*OR*

```
CALL ISPEXEC (buf-len, buffer);
```

## Return Codes

|   |                   |
|---|-------------------|
| 0 | Normal completion |
|---|-------------------|

**Note:** Data can only be saved using the CREATE or REPLACE primary commands.

12 VIEW has been disabled through the ISPF configuration table.

14 Member or sequential data set in use.

16 One of the following:

- No members matched the specified pattern.
- No members in the partitioned data set.

18 A VSAM data set was specified but the ISPF Configuration Table does not allow VSAM processing.

20 Severe error; unable to continue.

## VIIF – View Interface

## Command Invocation Format

Command procedures cannot be used to invoke this service.

## Call Invocation Format

```
CALL ISPLINK ('VIIF', [data-name], profile-name
, rec-format, rec-len
, read-routine,
, [cmd-routine], [dialog-data]
, [edit-len], [panel-name]
, [macro-name], [format-name]
, ['YES', 'NO']
, ['YES', 'NO']);
```

*OR*

```
CALL ISPLINK ('VIIF ',[data-name] ,' '
 ,[rec-format],[rec-len]
 ,read-routine ,
 ,[cmd-routine],[dialog-data]
 ,' ',' ',' ',' ',' ',' ',' ',' ',' ',' '
 ,'YES ');
```

## Return Codes

**Read Routine:**

0 Normal completion.

8      End of data records (no data record returned).

**16** Read error. If a read error is encountered when building the initial view display, the VIIF service terminates with a return code of 20. Otherwise, the edit data is redisplayed.

20 Severe error. (VIII service terminates immediately with a return code of 20.)

### Command Routine Return Codes:

0 Normal completion.

- 4 The PDF component should process the requested function.
- 12 Command deferred; retain the command on the Command line. View data is redisplayed.
- 20 Severe error. (VIIF service terminates immediately with a return code of 20.)

### VIIF Return Codes:

- 0 Normal completion, data saved.
- 4 Normal completion, data not saved.
- 12 View has been disabled through the ISPF Configuration table.
- 16 Unexpected return code received from a dialog-supplied routine. When an unexpected return code is received, the EDIF service terminates immediately with a return code of 16.
- 20 Severe error; unable to continue.

## VMASK – Associate an Edit Mask with a Dialog Variable

### Command Invocation Format

ISPEXEC \*This service does not apply to APL2 or command procedures\*

### Call Invocation Format

```
CALL ISPLINK ('VMASK', name-list {, 'FORMAT' { {, 'IDATE' ' ' } }
 {, 'STDDATE' ' ' } }
 {, 'ITIME' ' ' } }
 {, 'STDTIME' ' ' } }
 {, 'JDATE' ' ' } }
 {, 'JSTD' ' ' } }
 {, 'USER' ' ' 'mask', masklen) }
```

### Return Codes

- 0 Normal completion.
- 8 Variable not found.
- 20 Severe error.

## VPUT – Update Variables in the Shared or Profile Pool

### Command Invocation Format

ISPEXEC VPUT name-list [ASIS|SHARED|PROFILE]

### Call Invocation Format

CALL ISPEXEC (buf-len, buffer);

OR

```
CALL ISPLINK ('VPUT', name-list
 [, 'ASIS' ' ' | 'SHARED' ' ' | 'PROFILE' ' ']);
```

### Return Codes

- 0 Normal completion.
- 8 Variable not found.
- 16 Truncation occurred while copying variables to the application profile pool.
- 20 Severe error.

## VREPLACE – Replace a Variable

### Command Invocation Format

ISPEXEC \*This service does not apply to  
APL2 or command procedures\*

### Call Invocation Format

CALL ISPEXEC \*This service cannot be used with this interface\*

OR

CALL ISPLINK ('VREPLACE', name-list, lengths, values);

### Return Codes

0 Normal completion.  
16 Truncation has occurred during data movement.  
20 Severe error.

## VRESET – Reset Function Variables

### Command Invocation Format

ISPEXEC \*This service does not apply to  
APL or command procedures\*

### Call Invocation Format

CALL ISPEXEC \*This service cannot be used with this interface\*

OR

CALL ISPLINK ('VRESET ');

### Return Codes

0 Normal completion.  
20 Severe error.

## WCON — Connect to a Workstation

### Command Invocation Format

ISPEXEC WCON [IP(ip\_var\_name)]  
[LU(lu\_var\_name)]  
[FI ]  
[TITLE(title\_var\_name)]  
[FRAME(STD | FIX | DLG)]  
[BKGRND(STD | DLG)]  
[CODEPAGE(codepage)]  
[CHARSET(character\_set)]  
[NOGUIDSP]  
[PANEL(YES | NO | ONERROR)]

### Call Invocation Format

CALL ISPLINK ('WCON '  
[ip\_var\_name]  
[lu\_var\_name]  
[FI]  
[title\_var\_name]  
[STD | FIX | DLG]  
[STD | DLG]  
[codepage]

```
,[character_set]
,[NOGUIDSP]
,[YES | NO | ONERROR]);
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion. Connection established.
- 8 The user pressed End, Exit, or Cancel from the *Initiate Workstation Connection* panel without making a connection.
- 12 Already in GUI mode. Recursive error.
- 14 Connecting in GUI mode is not supported when in partition mode or split screen.
- 16 Cannot connect to workstation.
- 20 Parameters not valid or syntax conflict. For example, both IP and LU were specified.

## WSDISCON — Connect to a Workstation

### Command Invocation Format

```
ISPEXEC WSDISCON
```

### Call Invocation Format

```
CALL ISPLINK ('WSDISCON');
```

OR

```
CALL ISPEXEC (buf-len, buffer);
```

### Return Codes

- 0 Normal completion. User disconnected from workstation.
- 8 User trying to disconnect from workstation, but there is no current connection.
- 10 User trying to disconnect from GUI mode, but is connected with GUISCRD or GUISCRW values that are different than the host emulator session. User is not disconnected.
- 12 User trying to disconnect from a GUI display when running BATCH GUI mode. User is not disconnected.
- 14 User trying to disconnect from workstation while running the Workstation Tool Integration Configuration program. User is not disconnected.

---

## Chapter 3. Edit Macro Commands

This chapter contains the syntax and return codes for the ISPF Edit macros. For a complete description of the Edit macros see *z/OS ISPF Edit and Edit Macros*.

---

### AUTOLIST - Set or Query Autolist Mode

#### Macro Command Syntax

```
ISREDIT AUTOLIST [ON | OFF]
```

#### Assignment Statement Syntax

```
ISREDIT (varname) = AUTOLIST
```

```
ISREDIT AUTOLIST = [ON | OFF]
```

#### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

### AUTONUM - Set or Query Autonum Mode

#### Macro Command Syntax

```
ISREDIT AUTONUM [ON | OFF]
```

#### Assignment Statement Syntax

```
ISREDIT (varname) = AUTONUM
```

```
ISREDIT AUTONUM = [ON | OFF]
```

#### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

### AUTOSAVE - Set or Query Autosave Mode

#### Macro Command Syntax

```
ISREDIT AUTOSAVE [ON
 [OFF PROMPT]
 [OFF NOPROMPT]
```

#### Assignment Statement Syntax

```
ISREDIT (var1,var2) = AUTOSAVE
```

```
ISREDIT AUTOSAVE = [ON
 [OFF PROMPT]
 [OFF NOPROMPT]
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 4  | OFF NOPROMPT specified. |
| 20 | Severe error.           |

---

## BLKSIZE - Query the Block Size

### Assignment Statement Syntax

ISREDIT (varname) = BLKSIZE

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 12 | Syntax error.      |
| 20 | Severe error.      |

---

## BOUNDS - Set or Query the Edit Boundaries

### Macro Command Syntax

ISREDIT BOUNDS [left-col right-col]

### Assignment Statement Syntax

ISREDIT (var1,var2) = BOUNDS

ISREDIT BOUNDS = [left-col right-col]

### Return Codes

|    |                                                                   |
|----|-------------------------------------------------------------------|
| 0  | Normal completion.                                                |
| 4  | Right boundary greater than default; default right boundary used. |
| 12 | Invalid boundaries specified.                                     |
| 20 | Severe error.                                                     |

---

## BROWSE - Browse from within an Edit Session

### Macro Command Syntax

ISREDIT BROWSE member

### Return Codes

|    |                                                    |
|----|----------------------------------------------------|
| 0  | Normal completion                                  |
| 12 | Your error (invalid member name, recovery pending) |
| 20 | Severe error.                                      |

---

## BUILTIN - Process a Built-In Command

### Macro Command Syntax

ISREDIT BUILTIN cmdname



**Return Codes**

|           |                                        |
|-----------|----------------------------------------|
| <b>n</b>  | Return code from the built-in command. |
| <b>20</b> | Severe error.                          |

---

**CANCEL - Cancel Edit Changes****Macro Command Syntax**

```
ISREDIT CANCEL
```

**Return Codes**

|           |                    |
|-----------|--------------------|
| <b>0</b>  | Normal completion. |
| <b>20</b> | Severe error.      |

---

**CAPS - Set or Query Caps Mode****Macro Command Syntax**

```
ISREDIT CAPS [ON | OFF]
```

**Assignment Statement Syntax**

```
ISREDIT (varname) = CAPS
```

```
ISREDIT CAPS = [ON | OFF]
```

**Return Codes**

|           |                    |
|-----------|--------------------|
| <b>0</b>  | Normal completion. |
| <b>20</b> | Severe error.      |

---

**CHANGE - Change a Search String****Macro Command Syntax**

```
ISREDIT CHANGE string-1 string-2 [label-range] [NEXT] [CHARS] [X] [col-1 [col-2]]
 [ALL] [PREFIX] [NX]
 [FIRST] [SUFFIX]
 [LAST] [WORD]
 [PREV]
```

**Return Codes**

|           |                                                                                                           |
|-----------|-----------------------------------------------------------------------------------------------------------|
| <b>0</b>  | Normal completion.                                                                                        |
| <b>4</b>  | String not found.                                                                                         |
| <b>8</b>  | Change error. String-2 is longer than string-1 and substitution was not performed on at least one change. |
| <b>12</b> | Inconsistent parameters. The string to be found will not fit between the specified columns.               |
| <b>20</b> | Severe error.                                                                                             |

---

## CHANGE\_COUNTS - Query Change Counts

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = CHANGE_COUNTS
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## COMPARE - Compare Data Set

### Macro Command Syntax

```
ISREDIT COMPARE dsname [NEXT] [SAVE] [SYSIN] [EXCLUDE]
```

### Return Codes

|    |                                                                                                     |
|----|-----------------------------------------------------------------------------------------------------|
| 0  | Normal completion                                                                                   |
| 8  | Member or data set not found, or an error opening the member or data set occurred.                  |
| 12 | No parameters specified, or another parameter error such as not valid NEXT or member specification. |
| 20 | Severe error. SuperC, allocation, or delta file error occurred.                                     |

---

## COPY - Copy Data

### Macro Command Syntax

```
ISREDIT COPY member {AFTER } lptr [linenum-range]
 {BEFORE}
 (member)
 data set name
```

### Return Codes

|    |                                                                         |
|----|-------------------------------------------------------------------------|
| 0  | Normal completion.                                                      |
| 8  | End of data reached before last record read.                            |
| 12 | Invalid line pointer (lptr); member not found or BLDL error.            |
| 16 | End of data reached before first record of specified range was reached. |
| 20 | Syntax error (invalid name, incomplete range,), or I/O error.           |

---

## CREATE - Create a Data Set Member

### Macro Command Syntax

```
ISREDIT CREATE member lptr-range
 (member) {range}
 dataset(member) {range}
```

### Return Codes

|   |                                            |
|---|--------------------------------------------|
| 0 | Normal completion.                         |
| 8 | Member already exists, member not created. |

- 12 Invalid line pointer (lptr). The referenced line does not exist in the file.
- 20 Syntax error (invalid name or incomplete lptr range), or I/O error.

---

## CTL\_LIBRARY - Query Controlled Library Status

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = CTL_LIBRARY
```

### Return Codes

- 0 Normal completion.
- 20 Severe error.

---

## CURSOR - Set or Query the Cursor Position

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = CURSOR
ISREDIT CURSOR = lptr [col]
```

### Return Codes

- 0 Normal completion.
- 4 Column number beyond data, line number incremented.
- 12 Invalid line number.
- 20 Severe error.

**Note:** To set the cursor to the command line, exit your macro with a return code of 1.

---

## CUT — Cut and Save Lines

### Assignment Statement Syntax

```
ISREDIT CUT [lptr-range] [DEFAULT | clipboardname]
[REPLACE | APPEND]
```

### Return Codes

- 0 Normal completion.
- 12 Parameter error. Insufficient storage, or no more clipboards available.
- 20 Severe error.

---

## DATA\_CHANGED - Query the Data Changed Status

### Assignment Statement Syntax

```
ISREDIT (varname) = DATA_CHANGED
```

### Return Codes

- 0 Normal completion.
- 20 Severe error.

---

## DATA\_WIDTH - Query Data Width

### Assignment Statement Syntax

```
ISREDIT (varname) = DATA_WIDTH
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## DATAID - Query Data ID

### Assignment Statement Syntax

```
ISREDIT (varname) = DATAID
```

### Return Codes

|    |                                                           |
|----|-----------------------------------------------------------|
| 0  | The data ID returned was passed to the editor.            |
| 4  | Data ID was generated by and will be freed by the editor. |
| 8  | A previously generated data ID was returned.              |
| 20 | Severe error.                                             |

---

## DATASET - Query the Current Data Set Name

### Assignment Statement Syntax

```
ISREDIT (varname) = DATASET
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## DEFINE - Define a Name

### Macro Command Syntax

```
ISREDIT DEFINE name {MACRO CMD }
 {MACRO PGM }
 {ALIAS name-2}
 {NOP }
 {RESET }
 {DISABLED }
```

### Return Codes

|    |                                                                                                                  |
|----|------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                                               |
| 8  | RESET was attempted for a name not currently defined, or DEFINE name ALIAS name-2 requested and name-2 is a NOP. |
| 12 | DEFINE was attempted for a name not currently defined.                                                           |
| 20 | Severe error (unknown command).                                                                                  |

---

## DELETE - Delete Lines

### Macro Command Syntax

```
ISREDIT DELETE { ALL X | NX [lptr-range] }
 { [ALL] X | NX lptr-range }
 { lptr
 { lptr-range }
```

### Return Codes

|    |                                      |
|----|--------------------------------------|
| 0  | Normal (lines deleted successfully). |
| 4  | No lines deleted.                    |
| 8  | No standard records exist.           |
| 12 | Invalid line number.                 |
| 20 | Severe error.                        |

---

## DISPLAY\_COLS - Query Display Columns

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = DISPLAY_COLS
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## DISPLAY\_LINES - Query Display Lines

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = DISPLAY_LINES
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 4  | No visible data lines.  |
| 8  | No existing data lines. |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## DOWN - Scroll Down

### Macro Command Syntax

```
ISREDIT DOWN amt
```

### Return Codes

|   |                     |
|---|---------------------|
| 0 | Normal completion.  |
| 2 | No more data DOWN.  |
| 4 | No visible lines.   |
| 8 | No data to display. |

## DOWN edit macro

|    |                       |
|----|-----------------------|
| 12 | Amount not specified. |
| 20 | Severe error.         |

---

## EDIT - Edit from Within an Edit Session

### Macro Command Syntax

ISREDIT EDIT member

### Return Codes

|    |                                                                                                                          |
|----|--------------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion. Data was saved.                                                                                       |
| 4  | Normal completion. Data was not saved.                                                                                   |
| 12 | Your error (invalid member name, recovery pending).                                                                      |
| 14 | Member in use.                                                                                                           |
| 20 | Severe error.                                                                                                            |
| 28 | No ISREDIT MACRO statement preceded this call, or BROWSE was substituted because of the size of the member being edited. |

---

## END - End the Edit Session

### Macro Command Syntax

ISREDIT END

### Return Codes

|    |                                                                                |
|----|--------------------------------------------------------------------------------|
| 0  | Normal completion.                                                             |
| 4  | New member saved.                                                              |
| 12 | END not done, AUTOSAVE OFF PROMPT set, or Data not saved (insufficient space). |
| 20 | Severe error.                                                                  |

---

## EXCLUDE - Exclude Lines from the Panel

### Macro Command Syntax

ISREDIT EXCLUDE string [label-range] [NEXT ] [CHARS ] [col-1 [col-2]]  
[ALL ] [PREFIX]  
[FIRST] [SUFFIX]  
[LAST ] [WORD ]  
[PREV ]

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 4  | String not found.       |
| 8  | Line(s) not excluded.   |
| 12 | Inconsistent parameters |
| 20 | Severe error.           |

---

## EXCLUDE\_COUNTS - Query Exclude Counts

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = EXCLUDE_COUNTS
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## FIND - Find a Search String

### Macro Command Syntax

```
ISREDIT FIND string [label-range] [NEXT] [CHARS] [X] [col-1 [col-2]]
 [ALL] [PREFIX] [NX]
 [FIRST] [SUFFIX]
 [LAST] [WORD]
 [PREV]
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 4  | String not found.  |
| 12 | Syntax error.      |
| 20 | Severe error.      |

---

## FIND\_COUNTS - Query Find Counts

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = FIND_COUNTS
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## FLIP - Reverse Excluded Status of Lines

### Macro Command Syntax

```
ISREDIT FLIP [label-range]
```

### Return Codes

|    |                                                                                 |
|----|---------------------------------------------------------------------------------|
| 0  | Successful completion. The excluded status of the requested lines was reversed. |
| 20 | Severe error.                                                                   |

---

## FLOW\_COUNTS - Query Flow Counts

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = FLOW_COUNTS
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## HEX - Set or Query Hexadecimal Mode

### Macro Command Syntax

```
ISREDIT HEX [ON DATA]
 [ON VERT]
 [OFF]
```

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = HEX
```

```
ISREDIT HEX = [ON DATA]
 [ON VERT]
 [OFF]
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## HIDE - Hide Excluded Lines Message

### Macro Command Syntax

```
ISREDIT HIDE X
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## HILITE - Enhanced Edit Coloring

### Macro Command Syntax

```
ISREDIT HILITE [ON] [AUTO] [RESET] [PAREN] [FIND] [CURSOR] [SEARCH] [DISABLED]
 [OFF] [DEFAULT]
 [LOGIC] [OTHER]
 [IFLOGIC] [ASM]
 [DOLOGIC] [BOOK]
 [NOLOGIC] [C]
 [COBOL]
 [DTL]
 [HTML]
 [JCL]
 [PANEL]
 [PASCAL]
```



```
[PLI]
[REXX]
[SKEL]
[IDL]
[SUPERC]
[XML]
```

## Return Codes

- 0      Normal completion.
- 8      One of the following conditions:
  - LOGIC or SEARCH not supported in the current environment
  - Invalid language
  - HILITE unavailable.
- 12     One of the following conditions:
  - HILITE dialog is invalid from an edit macro
  - HILITE not available because of the installation defaults
  - HILITE not available because the edit panel in use is not enabled for enhanced color
  - Other error encountered.
- 20     Severe error. Possibly extra parameters.

---

## IMACRO - Set or Query an Initial Macro

### Macro Command Syntax

```
ISREDIT IMACRO {name | NONE}
```

### Assignment Statement Syntax

```
ISREDIT (varname) = IMACRO
```

```
ISREDIT IMACRO = name
```

## Return Codes

- 0      Normal completion.
- 4      IMACRO set not accepted; profile is locked.
- 12     Invalid name specified.
- 20     Severe error.

---

## INSERT - Prepare Display for Data Insertion

### Macro Command Syntax

```
ISREDIT INSERT lptr [numlines]
```

## Return Codes

- 0      Normal completion.
- 12     Invalid line number.
- 20     Severe error.

---

## LABEL - Set or Query a Line Label

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = LABEL lptr
```

```
ISREDIT LABEL lptr = labelname [level]
```

### Return Codes

|    |                                                                 |
|----|-----------------------------------------------------------------|
| 0  | Normal completion.                                              |
| 4  | Label name not returned, specified line has no label.           |
| 8  | Label set, but an existing label at the same level was deleted. |
| 12 | Line number specified is beyond the end of data.                |
| 20 | Severe error.                                                   |

---

## LEFT - Scroll Left

### Macro Command Syntax

```
ISREDIT LEFT amt
```

### Return Codes

|    |                       |
|----|-----------------------|
| 0  | Normal completion.    |
| 4  | No visible lines.     |
| 8  | No data to display.   |
| 12 | Amount not specified. |
| 20 | Severe error.         |

---

## LEVEL - Set or Query the Mod Level Number

### Macro Command Syntax

```
ISREDIT LEVEL num
```

### Assignment Statement Syntax

```
ISREDIT (varname) = LEVEL
```

```
ISREDIT LEVEL = num
```

### Return Codes

|    |                                                 |
|----|-------------------------------------------------|
| 0  | Normal completion.                              |
| 4  | Statistics mode is off; the command is ignored. |
| 12 | Invalid value specified.                        |
| 20 | Severe error.                                   |

---

## LINE - Set or Query a Line from the Data Set

### Assignment Statement Syntax

```
ISREDIT (varname) = LINE lptr
```

```
ISREDIT LINE lptr = data
```

### Return Codes

|    |                                                   |
|----|---------------------------------------------------|
| 0  | Normal completion.                                |
| 4  | Data truncated (line shorter than data supplied). |
| 8  | Variable not found.                               |
| 12 | Invalid line number.                              |
| 16 | Variable data truncated.                          |
| 20 | Severe error.                                     |

---

## LINE\_AFTER - Add a Line to the Current Data Set

### Assignment Statement Syntax

```
ISREDIT LINE_AFTER lptr = [DATA LINE] data
 [INFO LINE]
 [MSG LINE]
 [NOTE LINE]
```

### Return Codes

|    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 4  | Data truncated.      |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

## LINE\_BEFORE - Add a Line to the Current Data Set

### Assignment Statement Syntax

```
ISREDIT LINE_BEFORE lptr = [DATA LINE] data
 [INFO LINE]
 [MSG LINE]
 [NOTE LINE]
```

### Return Codes

|    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 4  | Data truncated.      |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

## LINE\_STATUS - Query Source and Change Information for a Line in a Data Set

### Assignment Statement Syntax

```
ISREDIT (varname) = LINE_STATUS lptr
```

## Return Codes

|    |                        |
|----|------------------------|
| 0  | Normal completion.     |
| 12 | Line number not valid. |
| 20 | Severe error.          |

---

## LINENUM - Query the Line Number of a Labeled Line

### Assignment Statement Syntax

ISREDIT (varname) = LINENUM label

## Return Codes

|    |                                                     |
|----|-----------------------------------------------------|
| 0  | Normal completion.                                  |
| 4  | Line 0 specified.                                   |
| 8  | Label specified, but not found (variable set to 0). |
| 12 | Invalid line number.                                |
| 20 | Severe error.                                       |

---

## LOCATE - Locate a Line

### Specific Locate Syntax

ISREDIT LOCATE lptr

### Generic Locate Syntax

```
ISREDIT LOCATE [FIRST] {CHANGE } [lptr-range]
 [LAST] {COMMAND }
 [NEXT] {ERROR }
 [PREV] {EXCLUDED}
 {LABEL }
 {SPECIAL }
 {INFOLINE}
 {MSGLINE}
 {NOTELINE}
```

## Return Codes

|    |                           |
|----|---------------------------|
| 0  | Normal completion.        |
| 4  | Line not located.         |
| 8  | Empty member or data set. |
| 20 | Severe error.             |

---

## LRECL - Query the Logical Record Length

### Assignment Statement Syntax

ISREDIT (varname) = LRECL

## Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## MACRO - Identify an Edit Macro

### Macro Command Syntax

```
ISREDIT MACRO [(var1 [,var2,...])] [PROCESS]
[NOPROCESS]
```

### Return Codes

|    |                                                  |
|----|--------------------------------------------------|
| 0  | Normal completion.                               |
| 8  | No parameters are permitted for this processing. |
| 12 | Syntax error.                                    |
| 20 | Severe error.                                    |

---

## MACRO\_LEVEL - Query the Macro Nesting Level

### Assignment Statement Syntax

```
ISREDIT (varname) = MACRO_LEVEL
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## MASKLINE - Set or Query the Mask Line

### Assignment Statement Syntax

```
ISREDIT (varname) = MASKLINE
```

```
ISREDIT MASKLINE = data
```

### Return Codes

|    |                          |
|----|--------------------------|
| 0  | Normal completion.       |
| 4  | Data truncated.          |
| 16 | Variable data truncated. |
| 20 | Severe error.            |

---

## MEMBER - Query the Current Member Name

### Assignment Statement Syntax

```
ISREDIT (varname) = MEMBER
```

### Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid command format. |
| 20 | Severe error.           |

---

## MEND - End a Macro in the Batch Environment

### Macro Command Syntax

```
ISREDIT MEND
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

**Note:** Only required in the MVS/370 environment.

---

## MODEL - Copy a Model into the Current Data Set

### Macro Command Model Name Syntax

```
ISREDIT MODEL model-name [qualifier] {AFTER } lptr [NOTES]
 {BEFORE} [NONOTES]
```

### Macro Command Class Name Syntax

```
ISREDIT MODEL CLASS class-name
```

### Return Codes

|    |                                                                                     |
|----|-------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                  |
| 4  | Data truncated (the model exceeded the right-hand margin of the data being edited). |
| 12 | Invalid line pointer.                                                               |
| 20 | Severe error.                                                                       |

---

## MOVE - Move a Data Set Member

### Macro Command Syntax

```
ISREDIT MOVE member {AFTER } lptr
 {BEFORE}
 (member)
 data set name
 data.set.name(member)
```

### Return Codes

|    |                                                                           |
|----|---------------------------------------------------------------------------|
| 0  | Normal completion.                                                        |
| 8  | End of data before last record read, or the specified data set is in use. |
| 12 | Invalid line pointer (lptr); member not found or BLDL error.              |
| 16 | End of data before first record read.                                     |
| 20 | Syntax error (invalid name, incomplete range), or I/O error.              |

---

## NONUMBER - Turn Off Number Mode

### Syntax

```
ISREDIT NONUMBER
```

**Return Codes**

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

**NOTES - Set or Query Note Mode****Macro Command Syntax**

```
ISREDIT NOTES [ON | OFF]
```

**Assignment Statement Syntax**

```
ISREDIT (varname) = NOTES
```

```
ISREDIT NOTES = [ON | OFF]
```

**Return Codes**

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

**NULLS - Set or Query Nulls Mode****Macro Command Syntax**

```
ISREDIT NULLS [ON STD]
 [ON ALL]
 [OFF]
```

**Assignment Statement Syntax**

```
ISREDIT (var1,var2) = NULLS
```

```
ISREDIT NULLS = [ON STD]
 [ON ALL]
 [OFF]
```

**Return Codes**

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

**NUMBER - Set or Query Number Mode****Macro Command Syntax**

```
ISREDIT NUMBER [ON] [STD] [DISPLAY]
 [OFF] [COBOL]
 [STD COBOL]
 [NOSTD]
 [NOCOBOL]
 [NOSTD NOCOBOL]
```

**Assignment Statement Syntax**

```
ISREDIT (var1,var2) = NUMBER
```

```
ISREDIT NUMBER = [ON] [STD] [DISPLAY]
 [OFF] [COBOL]
```

[STD COBOL]  
[NOSTD]  
[NOCOBOL]  
[NOSTD NOCOBOL]

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## PACK - Set or Query Pack Mode

### Macro Command Syntax

ISREDIT PACK [ON | OFF]

### Assignment Statement Syntax

ISREDIT (varname) = PACK

ISREDIT PACK = [ON | OFF]

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## PASTE — Move or Copy Lines from Clipboard

### Macro Command Syntax

ISREDIT PASTE [AFTER] lptr [clipboardname]  
[BEFORE] [KEEP]

### Return Codes

|    |                                                     |
|----|-----------------------------------------------------|
| 0  | Normal completion.                                  |
| 12 | Parameter error. Clipboard empty or does not exist. |
| 20 | Severe error.                                       |

---

## PRESERVE - Enable Saving of Trailing Blanks

### Macro Command Syntax

ISREDIT PRESERVE [ON | OFF]

### Assignment Statement Syntax

ISREDIT (varname) = PRESERVE

ISREDIT PRESERVE = [ON | OFF]

### Return Codes

|    |                                |
|----|--------------------------------|
| 0  | Normal completion.             |
| 6  | Record format is not variable. |
| 16 | Error setting variable.        |
| 20 | Severe error.                  |



---

## PROCESS - Process the Panel

### Macro Command Syntax

```
ISREDIT PROCESS [DEST] [RANGE cmd1 [cmd2]]
```

### Return Codes

|    |                                                                                                               |
|----|---------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                                            |
| 4  | A RANGE was expected by the macro, but one was not specified; default values set.                             |
| 8  | A DEST (destination) was expected by the macro, but one was not specified; default values set.                |
| 12 | Both a RANGE and a DEST (destination) were expected by the macro, but were not specified; default values set. |
| 16 | You entered incomplete or conflicting line commands.                                                          |
| 20 | Severe error.                                                                                                 |

**Note:** ISPF does not consider a return code of 12 from the PROCESS edit macro command an error. A macro that receives a return code of 12 from the PROCESS edit macro does not terminate.

---

## PROFILE - Set or Query the Current Profile

### Macro Command Profile Control Syntax

```
ISREDIT PROFILE [name] [number]
```

### Macro Command Profile Lock Syntax

```
ISREDIT PROFILE {LOCK | UNLOCK}
```

### Macro Command Profile Reset Syntax

```
ISREDIT PROFILE RESET
```

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = PROFILE
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## RANGE\_CMD - Query a Command That You Entered

### Assignment Statement Syntax

```
ISREDIT (varname) = RANGE_CMD
```

### Return Codes

|   |                                      |
|---|--------------------------------------|
| 0 | Normal completion.                   |
| 4 | Line command not set.                |
| 8 | Line command setting not acceptable. |

20      Severe error.

---

## RCHANGE - Repeat a Change

### Macro Command Syntax

```
ISREDIT RCHANGE
```

### Return Codes

|    |                                                                                                         |
|----|---------------------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                                      |
| 4  | String not found.                                                                                       |
| 8  | Change error (string-2 longer than string-1 and substitution was not performed on at least one change). |
| 12 | Syntax error.                                                                                           |
| 20 | Severe error.                                                                                           |

---

## RECFM - Query the Record Format

### Assignment Statement Syntax

```
ISREDIT (varname) = RECFM
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## RECOVERY - Set or Query Recovery Mode

### Macro Command Syntax

```
ISREDIT RECOVERY [ON [SUSP]]
 [OFF [WARN]]
 [OFF NOWARN]
```

### Assignment Statement Syntax

```
ISREDIT (var1, var2) = RECOVERY
```

```
ISREDIT RECOVERY = [ON [SUSP]]
 [OFF [WARN]]
 [OFF NOWARN]
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## RENUM - Renumber Data Set Lines

### Macro Command Syntax

```
ISREDIT RENUM [ON] [STD] [DISPLAY]
 [OFF] [COBOL]
 [STD COBOL]
```

**Return Codes**

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

**REPLACE - Replace a Data Set or Data Set Member****Macro Command Syntax**

```
ISREDIT REPLACE member lptr-range
ISREDIT REPLACE (member) lptr-range
ISREDIT REPLACE dataset lptr-range
ISREDIT REPLACE dataset(member) lptr-range
```

**Return Codes**

|    |                                                                           |
|----|---------------------------------------------------------------------------|
| 0  | Normal completion.                                                        |
| 8  | Member in use.                                                            |
| 12 | Invalid line pointer; member not found or BLDL error.                     |
| 20 | Syntax error (invalid name, incomplete line pointer value), or I/O error. |

---

**RESET - Reset the Data Display****Macro Command Syntax**

```
ISREDIT RESET [CHANGE] [lptr-range]
 [COMMAND]
 [ERROR]
 [EXCLUDED]
 [HIDE]
 [LABEL]
 [SPECIAL]
```

**Return Codes**

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

**RFIND - Repeat Find****Macro Command Syntax**

```
ISREDIT RFIND
```

**Return Codes**

|    |                                    |
|----|------------------------------------|
| 0  | Normal completion.                 |
| 4  | String not found.                  |
| 12 | Syntax error.                      |
| 20 | Severe error (string not defined). |

---

**RIGHT - Scroll Right****Macro Command Syntax**

```
ISREDIT RIGHT amt
```

## Return Codes

|    |                       |
|----|-----------------------|
| 0  | Normal completion.    |
| 4  | No visible lines.     |
| 8  | No data to display.   |
| 12 | Amount not specified. |
| 20 | Severe error.         |

---

## RMACRO - Set or Query the Recovery Macro

### Macro Command Syntax

```
ISREDIT RMACRO {name | NONE}
```

### Assignment Statement Syntax

```
ISREDIT (varname) = RMACRO
```

```
ISREDIT RMACRO = {name | NONE}
```

## Return Codes

|    |                         |
|----|-------------------------|
| 0  | Normal completion.      |
| 12 | Invalid name specified. |
| 20 | Severe error.           |

---

## SAVE - Save the Current Data

### Macro Command Syntax

```
ISREDIT SAVE
```

## Return Codes

|    |                                                          |
|----|----------------------------------------------------------|
| 0  | Normal completion.                                       |
| 4  | New member saved.                                        |
| 12 | Data not saved; not enough PDS space or directory space. |
| 20 | Severe error.                                            |

---

## SAVE\_LENGTH - Set or Query Length for Variable Length Data

### Macro Command Syntax

```
ISREDIT (variable) = SAVE_LENGTH .lptr
ISREDIT SAVE_LENGTH .lptr = value
```

## Return Codes

|    |                                                                                                                                                                                                                                   |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                                                                                                                                                                |
| 4  | Value supplied on set call was out of range. If the supplied length was too great, it is adjusted to equal the maximum record length. Otherwise, the length is adjusted to the length of the nonblank data portion of the record. |
| 6  | Record format is not variable. Any value of an assigned request is ignored.                                                                                                                                                       |
| 16 | Error setting variable.                                                                                                                                                                                                           |
| 20 | Severe error.                                                                                                                                                                                                                     |

---

## SCAN - Set Command Scan Mode

### Macro Command Syntax

```
ISREDIT SCAN [ON | OFF]
```

### Assignment Statement Syntax

```
ISREDIT (varname) = SCAN
```

```
ISREDIT SCAN = [ON | OFF]
```

### Return Codes

```
0 Normal completion.
20 Severe error.
```

---

## SEEK - Seek a Data String, Positioning the Cursor

### Macro Command Syntax

```
ISREDIT SEEK string [label-range] [NEXT] [CHARS] [X] [col-1 [col-2]]
 [ALL] [PREFIX] [NX]
 [FIRST] [SUFFIX]
 [LAST] [WORD]
 [PREV]
```

### Return Codes

```
0 Normal completion.
4 String not found.
12 Syntax error.
20 Severe error.
```

---

## SEEK\_COUNTS - Query Seek Counts

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = SEEK_COUNTS
```

### Return Codes

```
0 Normal completion.
20 Severe error.
```

---

## SESSION — Identify Type of Session

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = SESSION
```

### Return Codes

```
0 Normal completion.
20 Severe error.
```

---

## SETUNDO - Set UNDO Mode

### Macro Command Syntax

```
ISREDIT SETUNDO [STORAGE]
 [RECOVER]
 [ON]
 [OFF]
```

### Assignment Statement Syntax

```
ISREDIT (varname) = SETUNDO

ISREDIT SETUNDO = [STORAGE]
 [RECOVER]
 [ON]
 [OFF]
```

### Return Codes

- |    |                                                                                                                      |
|----|----------------------------------------------------------------------------------------------------------------------|
| 0  | Successful completion. SETUNDO was turned on or off, or status remains unchanged because UNDO was already on or off. |
| 20 | Severe error. Probably a parameter error (something other than STG, REC, or OFF was specified).                      |

---

## SHIFT ( - Shift Columns Left

### Macro Command Syntax

```
ISREDIT SHIFT (lptr [n | 2]
```

### Return Codes

- |    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

## SHIFT ) - Shift Columns Right

### Macro Command Syntax

```
ISREDIT SHIFT) lptr [n | 2]
```

### Return Codes

- |    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

## SHIFT < - Shift Data Left

### Macro Command Syntax

```
ISREDIT SHIFT < lptr [n | 2]
```

**Return Codes**

|    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

**SHIFT > - Shift Data Right****Macro Command Syntax**

```
ISREDIT SHIFT > lptr [n | 2]
```

**Return Codes**

|    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

**SORT - Sort Data****Macro Command Syntax**

```
ISREDIT SORT [label-range] [X] [sort-field1 ... sort-field5]
[NX]
```

**Return Codes**

|    |                                     |
|----|-------------------------------------|
| 0  | Normal completion.                  |
| 4  | Lines were already in sort order.   |
| 8  | No records to sort.                 |
| 16 | Not enough storage to perform sort. |
| 20 | Severe error.                       |

---

**STATS - Set or Query Stats Mode****Macro Command Syntax**

```
ISREDIT STATS [ON | OFF]
```

**Assignment Statement Syntax**

```
ISREDIT (varname) = STATS
```

```
ISREDIT STATS = [ON | OFF]
```

**Return Codes**

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

**SUBMIT - Submit Data for Batch Processing****Macro Command Syntax**

```
ISREDIT SUBMIT [lptr-range]
```

## Return Codes

|    |                               |
|----|-------------------------------|
| 0  | Normal completion.            |
| 20 | Severe error (submit failed). |

---

## TABS - Set or Query Tabs Mode

### Macro Command Syntax

```
ISREDIT TABS [ON] [STD]
 [ALL]
 [tab-character]
[OFF]
```

### Assignment Statement Syntax

```
ISREDIT (var1,var2) = TABS

ISREDIT TABS = [ON] [STD]
 [ALL]
 [tab-character]
[OFF]
```

## Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## TABSLINE - Set or Query Tabs Line

### Assignment Statement Syntax

```
ISREDIT (varname) = TABSLINE

ISREDIT TABSLINE = data
```

## Return Codes

|    |                                    |
|----|------------------------------------|
| 0  | Normal completion.                 |
| 4  | Data truncated.                    |
| 8  | Invalid data detected and ignored. |
| 20 | Severe error (invalid input).      |

---

## TENTER - Set Up Panel for Text Entry

### Macro Command Syntax

```
ISREDIT TENTER lptr [numlines]
```

## Return Codes

|    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 12 | Invalid line number. |
| 20 | Severe error.        |



---

## TFLOW - Text Flow a Paragraph

### Macro Command Syntax

ISREDIT TFLOW lptr [col]

### Return Codes

|    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

## TSPLIT - Text Split a Line

### Macro Command Syntax

ISREDIT TSPLIT [lptr col]

### Return Codes

|    |                      |
|----|----------------------|
| 0  | Normal completion.   |
| 12 | Invalid line number. |
| 20 | Severe error.        |

---

## UNNUMBER - Remove Sequence Numbers

### Macro Command Syntax

ISREDIT UNNUMBER

### Return Codes

|    |                     |
|----|---------------------|
| 0  | Normal completion.  |
| 12 | Number mode not on. |
| 20 | Severe error.       |

---

## UP - Scroll Up

### Macro Command Syntax

ISREDIT UP amt

### Return Codes

|    |                       |
|----|-----------------------|
| 0  | Normal completion.    |
| 2  | No more data UP.      |
| 4  | No visible lines.     |
| 8  | No data to display.   |
| 12 | Amount not specified. |
| 20 | Severe error.         |

---

## USER\_STATE - Save or Restore User State

### Assignment Statement Syntax

```
ISREDIT (varname) = USER_STATE
```

```
ISREDIT USER_STATE = (varname)
```

### Return Codes

|    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 20 | Severe error.      |

---

## VERSION - Set or Query Version Number

### Macro Command Syntax

```
ISREDIT VERSION num
```

### Assignment Statement Syntax

```
ISREDIT (varname) = VERSION
```

```
ISREDIT VERSION = num
```

### Return Codes

|    |                                                        |
|----|--------------------------------------------------------|
| 0  | Normal completion.                                     |
| 4  | Stats mode is off, the command is ignored.             |
| 12 | Invalid value specified (the version must be 1 to 99). |
| 20 | Severe error.                                          |

---

## VIEW - View from within an Edit Session

### Macro Command Syntax

```
ISREDIT VIEW member
```

### Return Codes

|    |                                                    |
|----|----------------------------------------------------|
| 0  | Normal completion                                  |
| 12 | Your error (invalid member name, recovery pending) |
| 20 | Severe error.                                      |

---

## VOLUME — Query Volume Information

### Assignment Statement Syntax

```
ISREDIT (var1,var2,var3) = VOLUME
```

### Return Codes

|   |                                                                                                                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0 | Normal completion.                                                                                                                                                                                      |
| 4 | The data set is a multivolume data set and the shared pool variable ZEDMVOL is set to contain all the volume serial numbers of the data set. ZEDMVOL has the length of the number of volumes times six. |

20      Severe error.

---

## XSTATUS - Set or Query Exclude Status of a Line

### Assignment Statement Syntax

ISREDIT (varname) = XSTATUS lptr

ISREDIT XSTATUS lptr = X | NX

### Return Codes

- |    |                                                                                                                                                                                                                                                                                                                                                                           |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                                                                                                                                                                                                                                                                                                        |
| 8  | An attempt to set a line status to NX could not be performed. The line has a pending line command on it. For example, if an excluded line contains an M line command in the line command field, then the MOVE/COPY IS PENDING message is displayed and the lines cannot be shown. The reset command can be used to remove your line commands from the line command field. |
| 12 | Line number is not an existing line.                                                                                                                                                                                                                                                                                                                                      |
| 20 | Severe error.                                                                                                                                                                                                                                                                                                                                                             |



---

## Chapter 4. SCLM Services and Macros

This chapter contains the syntax conventions and return codes for the SCLM services as well as the syntax conventions for the SCLM macros. For a complete description of the services and macros see the *z/OS ISPF Software Configuration and Library Manager Reference*.

---

### SCLM Services

#### ACCTINFO - Retrieve Accounting Information

##### Command Invocation Format

```
FLMCMDB ACCTINFO,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,[user_info_table]
 ,[include_table]
 ,[change_code_table]
 ,[ada_cu_table]
 ,[SEARCH|FORWARD|MATCH]
 ,[dd_msgs]
```

##### Call Invocation Format

```
lastrc := FLMLNK('ACCTINFO ',sclm_id,
 ,group
 ,type
 ,member
 ,user_info_table
 ,include_table
 ,change_code_table
 ,ada_cu_table
 ,SEARCH|FORWARD|MATCH
 ,msg_array);
```

##### Return Codes

- |    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion. An account record exactly matching the specified criteria was found and the information was stored successfully.                                                                                                                                                                                                                                                                                                                                                                                                        |
| 8  | Error completion. No account record was found for the specified member. <ul style="list-style-type: none"><li>• If FORWARD was specified then there are no accounting records for the group which match or follow the specified type and member name.</li><li>• If MATCH was specified then there is not an account record with the specified group, type and member name.</li><li>• If SEARCH was specified then there are no matching account records found when searching up the hierarchy starting from the specified group.</li></ul> |
| 12 | Error completion. Refer to the messages for more information.                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| 20 | Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 24 | Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| 32 | Severe error condition. An invalid parameter list was passed to the requested service.                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 34 | Severe error condition. An invalid service was requested.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## AUTHCODE - Set or Retrieve an AUTHCODE

### Command Invocation Format

```
FLMCMD AUTHCODE,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,[from_authcode]
 ,[to_authcode]
 ,[C|U]
 ,[dd_authmsgs]
 ,[dd_authrept]
```

### Call Invocation Format

```
lastrc := FLMLNK('AUTHCODE',sclm_id,
 ,group
 ,type
 ,member
 ,from_authcode
 ,to_authcode
 ,C|U
 ,dd_authmsgs
 ,dd_authrept);
```

### Return Codes

- 0 Normal completion. Authcode changed or reported successfully.
- 2 Normal completion. Authcode not changed. One of the following occurred:
  - To\_authcode = existing authcode (no change needed)
  - From\_authcode requested does not equal existing authcode (no change wanted)
  - Member is not editable.
- 4 Warning condition. Segment exists at a lower level with an authcode not equal to the "to\_authcode" which could overlay the current segment.
- 8 Error condition. Invalid type, member, or mode parameter. See the dd\_authmsgs for details.
- 12 Severe error condition. Accounting record not found or severe error.
- 16 Severe error condition. One of the following occurred:
  - Not authorized to update "to\_authcode", access\_key mismatch, or not authorized to update data set.
  - Verification failed.
  - Error updating accounting record.
  - Invalid group.

SCLM might not produce messages because there was an error invoking the AUTHCODE module.
- 20 Severe error condition. SCLM does not produce messages because the SCLM ID is not valid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32 Severe error condition. SCLM does not produce messages for one of the following reasons:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## BUILD - Build a Member

### Command Invocation Format

```
FLMCMD BUILD,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,[userid]
 ,[E|L|N|S]
 ,[C|F|R|U]
 ,[Y|N]
 ,[Y|N]
 ,[prefix_userid]
 ,[dd_bldmsgs]
 ,[dd_bldrept]
 ,[dd_bldlist]
 ,[dd_bldexit]
```

### Call Invocation Format

```
lastrc := FLMLNK('BUILD ' ,sclm_id
 ,group
 ,type
 ,member
 ,{userid|' '}
 ,{E|L|N|S}
 ,{C|F|R|U}
 ,{Y|N}
 ,{Y|N}
 ,{prefix_userid | ' '}
 ,dd_bldmsgs
 ,dd_bldrept
 ,dd_bldlist
 ,dd_bldexit);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 12 Severe error condition. Messages are not produced. Error invoking the Build module.
- 16 Severe error condition. Messages are not produced. Unable to retrieve SCLM ID information.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced for one of the following reasons:
  - Invalid service requested
  - Invalid parameter list for the requested service
  - The version of the FLMLNK subroutines does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## DBACCT - Retrieve Accounting Records for a Member

### Command Invocation Format

You cannot use command procedures to call this service.

### Call Invocation Format

```
lastrc := FLMLNK('DBACCT ',sclm_id
 ,group
 ,type
 ,member
 ,found_group
 ,$acct_info
 ,$list_info
 ,$msg_array);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition. The accounting record could not be found.
- 8 Error condition. See the \$msg\_array parameter above for more details.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced for one of the following reasons:
  - Invalid service requested
  - Invalid parameter list for the requested service
  - The version of the FLMLNK subroutines does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## DBUTIL - Generate a Tailored Data Set and Report

### Command Invocation Format

```
FLMCMD DBUTIL,project
 ,[prj_def]
 ,[acct_group1|*],[acct_group2]
 ,[acct_group3],[acct_group4]
 ,[acct_group5],[acct_group6]
 ,[acct_type|*],[acct_member|*]
 ,[authcode|*],[change_code|*]
 ,[change_group|*],[change_userid|*]
 ,[language|*],[YES|NO]
 ,[ACCT|BMAP|*]
 ,[IN|OUT|*]
 ,[arch_group],[arch_type],[arch_member]
 ,[EXTENDED|NORMAL|SUBUNIT]
 ,[YES|NO]
 ,[YES|NO]
 ,[report_name],[dd_msgs]
 ,[dd_rept],[dd_tailor]
 ,[report_line]
```

### Call Invocation Format

You cannot use call procedures to start this service.

### Return Codes

- 0 Normal completion.



- 4 Warning condition.
- 8 Error condition.
- >8 Severe error condition. Messages are not produced.

## DELETE - Delete Database Components

### Command Invocation Format

```
FLMCMD DELETE,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,access_key
 ,[ACCT|BMAP|TEXT]
```

### Call Invocation Format

```
lastrc := FLMLNK('DELETE ',sclm_id
 ,group
 ,type
 ,member
 ,access_key
 ,{ACCT|BMAP|TEXT}
 , $msg_array);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition. The member, accounting record, or build map were not found.
- 8 Error condition.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced for one of the following reasons:
  - Invalid service requested
  - Invalid parameter list for the requested service
  - The version of the FLMLNK subroutines does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## DELGROUP - Delete Database Components from Group

### Command Invocation Format

```
FLMCMD DELGROUP,project
 ,[prj_def]
 ,{group|*}
 ,{type|*}
 ,{member|*}
 ,{ACCT|BMAP|TEXT|OUTPUT}
 ,[EXECUTE|REPORT]
 ,[dd_list]
 ,[dd_msgs]
 ,[dd_rept]
 ,[dd_exit]
 ,[pack_del]
 ,[pack_days]
```

### Call Invocation Format

```
lastrc := FLMLNK('DELGROUP',sclm_id
 ,{group|*}
 ,{type|*}
 ,{member|*}
 ,{ACCT|BMAP|TEXT|OUTPUT}
 ,{EXECUTE|REPORT}
 ,dd_list
 ,dd_msgs
 ,dd_rept
 ,dd_exit
 ,{Y|N}
 ,pack_days);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 12 Severe error condition. SCLM does not produce messages because there was an error invoking the DELGROUP module.
- 16 Severe error condition. SCLM does not produce messages because it was unable to retrieve SCLM ID information.
- 20 Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32 Severe error condition. SCLM does not produce messages for one of the following reasons:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module (for future use).
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## DSALLOC—Allocate Data Sets for Group/Type

### Command Invocation Format

```
FLMCMD DSALLOC,project
 ,[prj_def]
 ,first_group
 ,[A|P]
 ,total_groups
 ,type
 ,ddname
```

### Call Invocation Format

```
lastrc := FLMLNK('DSALLOC ',sclm_id
 ,first_group
 ,{A|P}
 ,total_groups
 ,type
 ,ddname
 , $msg_array);
```

### Return Codes

- 0 Normal completion.

- 4      Warning condition. The \$msg\_array parameter contains the warning message associated with this condition. A warning occurs if the number of data sets allocated to ddname is less than the number requested in the total\_groups parameter.
- 8      Error condition. The \$msg\_array parameter contains the error message associated with this condition.
- 20     Severe error condition. SCLM does not produce messages because the SCLM ID (sclm\_id parameter) is invalid.
- 24     Severe error condition. SCLM does not produce messages because SCLM services were not initialized.
- 32     Severe error condition. SCLM does not produce messages for one of the following reasons:
  - Invalid service requested
  - Invalid parameter list for the requested service
  - The version of the FLMLNK subroutines does not match the version of the SCLM services module.
- 34     Severe error condition. An invalid service was requested.
- 36     Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## EDIT— Edit a Member of a Controlled Library

### Command Invocation Format

```
FLMCMD EDIT,project
 ,(prj_def)
 ,group1
 ,(group2)
 ,(group3)
 ,(group4)
 ,type
 ,member
 ,(Y|N)
 ,(imac)
 (prof),
 ,(Y|N)
 ,(Y|N)
 ,(Y|N)
 ,(Y|N)
 ,(authcode)
 ,(chgcode)
 ,(volser)
 ,(dd_edtmsgs)
```

**Call Invocation Format**

```
lastrc := FLMLNK('EDIT', sclm_id
 ,group1
 ,(group2)
 ,(group3)
 ,(group4)
 ,type
 ,member
 ,(Y|N)
 ,(imac)
 ,(prof)
 ,(Y|N)
 ,(Y|N)
 ,(Y|N)
 ,(Y|N)
 ,(authcode)
 ,(chgcode)
 ,(volser)
 ,(dd_editmsgs));
```

**Return Codes**

Possible return codes are:

- |    |                                                                                                                                                                                                                                                                                                                                                                 |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                                                                                                                                                                                                                                                                                              |
| 8  | Error condition. See the dd_editmsgs for details.                                                                                                                                                                                                                                                                                                               |
| 12 | Severe error condition. SCLM does not produce messages because there was an error invoking the edit module.                                                                                                                                                                                                                                                     |
| 20 | Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.                                                                                                                                                                                                                                                                          |
| 24 | Severe error condition. SCLM does not produce messages because SCLM services have not been initialized. See the <i>z/OS ISPF Software Configuration and Library Manager Reference</i> for information on initializing an SCLM services session.                                                                                                                 |
| 32 | Severe error condition. SCLM does not produce messages for one of the following reasons: <ul style="list-style-type: none"> <li>• You requested an invalid service.</li> <li>• You supplied an invalid parameter list for the requested service.</li> <li>• The version of FLMLNK subroutine does not match the version of the SCLM services module.</li> </ul> |

**END - End an SCLM Services Session****Command Invocation Format**

You cannot use command procedures to call this service.

**Call Invocation Format**

```
lastrc := FLMLNK('END ',appl_id
 ,msg_line);
```

**Return Codes**

- |   |                                                                                  |
|---|----------------------------------------------------------------------------------|
| 0 | Normal completion.                                                               |
| 4 | Warning condition. Unable to free an SCLM ID associated with the application ID. |
| 8 | Error condition.                                                                 |

- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. SCLM does not produce messages for one of the following reasons:
  - Invalid service requested
  - Invalid parameter list for the requested service
  - The version of the FLMLNK subroutines does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## EXPORT - Extract SCLM Accounting Information for a Group

### Command Invocation Format

```
FLMCMD EXPORT,project
 ,[prj_def]
 ,group
 ,[Y|N]
 ,[dd_msgs]
 ,[dd_rept]
```

### Call Invocation Format

```
lastrc := FLMLNK('EXPORT ',sclm_id
 ,group
 ,{Y|N}
 ,dd_msgs
 ,dd_rept);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 12 Severe error condition. SCLM does not produce messages because there was an error invoking the IMPORT module.
- 16 Severe error condition. SCLM does not produce messages because it was unable to retrieve SCLM ID information.
- 20 Severe error condition. SCLM does not produced messages because the SCLM ID is invalid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32 Severe error condition. SCLM does not produce messages for one of the following reasons:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module (for future use).
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## FREE - Free Database from its Association with SCLM ID

### Command Invocation Format

You cannot use command procedures to call this service.

## Call Invocation Format

```
lastrc := FLMLNK('FREE',sclm_id
 ,msg_line);
```

## Return Codes

- 0 Normal completion.
- 8 Error condition.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## GETBLDMP—Retrieve Build Map Information

### Command Invocation Format

```
FLMCMD GETBLDMP,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,bmap_table
 ,[dd_msgs]
```

### Call Invocation Format

```
lastrc := FLMLNK('GETBLDMP',sclm_id
 ,group
 ,type
 ,member
 ,bmap_table
 ,msg_array);
```

## Return Codes

- 0 Normal completion. A build map record was found that exactly matched the specified criteria and the information was stored successfully.
- 4 Normal completion. A build map record was found at a higher level. The information was stored successfully.
- 8 Error completion. No account record was found for the specified member.
- 12 Error completion. Refer to the messages for more information.

## IMPORT - Import SCLM Accounting Information to Current Project

### Command Invocation Format

```
FLMCMD IMPORT,project
 ,[prj_def]
 ,group
 ,[authcode]' ']
 ,[change_code]' ']
```

```
,[userid|' ']
,[C|U|R]
,[dd_msgs]
,[dd_rept]
```

### Call Invocation Format

```
lastrc := FLMLNK('IMPORT ',sclm_id
 ,group
 ,{authcode}
 ,{change_code}
 ,{userid}
 ,{C|U|R}
 ,dd_msgs
 ,dd_rept);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 12 Severe error condition. SCLM does not produce messages because there was an error invoking the IMPORT module.
- 16 Severe error condition. SCLM does not produce messages because it was unable to retrieve SCLM ID information.
- 20 Severe error condition. SCLM does not produced messages because the SCLM ID is invalid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32 Severe error condition. SCLM does not produce messages for one of the following reasons:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module (for future use).
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## INIT - Generate an SCLM ID for a Database

### Command Invocation Format

You cannot use command procedures to call this service.

### Call Invocation Format

```
lastrc := FLMLNK('INIT ',appl_id
 ,project
 ,prj_def
 ,sclm_id
 ,msg_line);
```

### Return Codes

- 0 Normal completion.
- 8 Error condition.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.

- You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## LOCK - Lock a Member or Assign an Access Key

### Command Invocation Format

```
FLMCMD LOCK,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,[authcode]
 ,[access_key]
 ,[userid]
```

### Call Invocation Format

```
lastrc := FLMLNK('LOCK ',sclm_id
 ,group
 ,type
 ,member
 ,{authcode|' '}
 ,{access_key|' '}
 ,{userid|' '}
 ,found_group
 ,max_prom_group
 ,$acct_info
 ,$list_info
 ,$msg_array);
```

### Return Codes

- 0 Normal completion.
- 8 Error condition.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
- You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## MIGRATE - Create Accounting Information for Selected Members

### Command Invocation Format

```
FLMCMD MIGRATE,project
 ,[prj_def]
 ,group,type,member
 ,[authcode]
 ,[language]
```



```
,[change_code]
,[C|U|F]
,[dd_migmsgs]
,[dd_miglist]
,[dd_migrept]
,[date]
,[time]
```

### Call Invocation Format

```
lastrc:=FLMLNK('MIGRATE ',sclm_id
,group
,type
,member
,authcode
,language
,change_code
,C|U|F
,[dd_migmsgs]
,[dd_miglist]
,[dd_migrept]
,[date]
,[time]);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition. See the SCLM messages for more information.
- 8 Error condition. See the SCLM messages for more information.
- 20 Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32 Severe error condition. SCLM does not produce messages for one of the following reasons:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.

## NEXTGRP - Find the Next Group in a Hierarchy

### Command Invocation Format

```
FLMCMD NEXTGRP,project
,[prj_def]
,group
,[dd_msgs]
```

### Call Invocation Format

```
lastrc := FLMLNK('NEXTGRP ',sclm_id
,group
,dd_msgs);
```

### Return Codes

- 0 Normal completion. NEXTGRP completed successfully. Variables are set.
- 4 Warning condition. The group is already the top group. No variables are set.
- 8 Error condition. Invalid project, prj\_def, or group name.
- 12 Severe error condition. SCLM might not produce messages because there was an error invoking the NEXTGRP module. For certain conditions messages are available.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.

- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## PARSE - Parse a Member for Statistical and Dependency Information

### Command Invocation Format

You cannot use command procedures to call this service.

### Call Invocation Format

```
lastrc := FLMLNK('PARSE',sclm_id
 ,group
 ,type
 ,member
 ,language
 ,{Y|N}
 ,ddname
 , $stats_info
 , $list_info
 , $msg_array);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition. A parser error occurred.
- 8 Error condition.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## PROMOTE - Promote a Member from One Library to Another

### Command Invocation Format

```
FLMCMD PROMOTE,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,[userid]
 ,[E|N|S]
 ,[C|U|R]
```

```
,[dd_prommsgsgs]
,[dd_promrept]
,[dd_promexit]
,[dd_copyerr]
```

### Call Invocation Format

```
lastrc := FLMLNK('PROMOTE ',sclm_id
 ,group,type,member
 ,{userid|' '})
 ,{E|N|S}
 ,{C|U|R}
 ,dd_prommsgsgs,dd_promrept
 ,dd_promexit,dd_copyerr);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 12 Severe error condition. Messages are not produced. Error invoking the Promote module.
- 16 Severe error condition. Messages are not produced. Unable to retrieve SCLM ID information.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## RPTARCH - Generate an SCLM Architecture Report

### Command Invocation Format

```
FLMCMD RPTARCH,project,[prj_def]
 ,group
 ,type
 ,member
 ,[HL|LEC|CC|GEN|TOP SOURCE|NONE]
 ,dd_rptmsgsgs
 ,dd_rptrept
```

### Call Invocation Format

You cannot use call procedures to start this service.

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 16 Error condition. Unable to retrieve the SCLM table.

## SAVE - Lock, Parse, and Store a Member

### Command Invocation Format

```
FLMCMD SAVE,project,[prj_def]
 ,group,type,member
 ,[authcode],[access_key]
 ,[userid],[language]
 ,[Y|N]
 ,[ddname],[C|U]
 ,[C|U]
 ,[change_code]
```

### Call Invocation Format

```
lastrc := FLMLNK('SAVE ',sclm_id
 ,group,type,member
 ,authcode,access_key
 ,{userid|' '},language
 ,{Y|N}
 ,ddname
 ,{C|U}
 ,{C|U}
 ,{Y|N}
 ,$list_info
 ,max_prom_group
 ,$msg_array);
```

### Return Codes

- |    |                                                                                                                                                                                                                                                                                                                                                             |
|----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0  | Normal completion.                                                                                                                                                                                                                                                                                                                                          |
| 4  | Warning condition.                                                                                                                                                                                                                                                                                                                                          |
| 8  | Error condition.                                                                                                                                                                                                                                                                                                                                            |
| 20 | Severe error condition. Messages are not produced. Invalid SCLM ID.                                                                                                                                                                                                                                                                                         |
| 24 | Severe error condition. Messages are not produced. SCLM services have not been initialized.                                                                                                                                                                                                                                                                 |
| 32 | Severe error condition. Messages are not produced. One of the following is true: <ul style="list-style-type: none"> <li>• You requested an invalid service.</li> <li>• You supplied an invalid parameter list for the requested service.</li> <li>• The version of the FLMLNK subroutine does not match the version of the SCLM services module.</li> </ul> |
| 34 | Severe error condition. An invalid service was requested.                                                                                                                                                                                                                                                                                                   |
| 36 | Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.                                                                                                                                                                                                                                        |

## SCLMINFO - Return Project Information

### Command Invocation Format

```
FLMCMD SCLMINFO,project
 ,[prj_def]
```

### Call invocation format

```
lastrc := FLMLNK('SCLMINFO',sclm_id);
```

### Return Codes

- |    |                    |
|----|--------------------|
| 0  | Normal completion. |
| 12 | Error condition.   |

## START - Generate an Application ID for a Service Session

### Command Invocation Format

You cannot use command procedures to call this service.

### Call Invocation Format

```
lastrc := FLMLNK('START ',appl_id);
```

### Return Codes

- 0 Normal completion.
- 12 Severe error condition. The maximum application ID limit was exceeded.
- 16 Severe error condition. An invalid version of the SCLM table was loaded.
- 20 Severe error condition. An invalid version of the NLS table was loaded.
- 24 Severe error condition. Unable to load the SCLM table.
- 28 Severe error condition. Unable to load the NLS table or the SCLM I/O load module.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## STORE - Store Member Information in an Accounting Record

### Command Invocation Format

You cannot use command procedures to call this service.

### Call Invocation Format

```
lastrc := FLMLNK('STORE ',sclm_id
 ,group,type,member
 ,access_key
 ,language
 ,{userid|' '}
 ,{C|U}
 ,{Y|N}
 ,$stats_info,$list_info
 ,$msg_array);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.

- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## UNLOCK - Unlock a Member in a Development Library

### Command Invocation Format

```
FLMCMD UNLOCK,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,[access_key]
```

### Call Invocation Format

```
lastrc := FLMLNK('UNLOCK ',sclm_id
 ,group
 ,type
 ,member
 ,{access_key|' '}
 ,$msg_array);
```

### Return Codes

- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.
- 20 Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24 Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32 Severe error condition. Messages are not produced. One of the following is true:
  - You requested an invalid service.
  - You supplied an invalid parameter list for the requested service.
  - The version of the FLMLNK subroutine does not match the version of the SCLM services module.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## VERDEL—Delete Version Information

### Command Invocation Format

```
FLMCMD VERDEL,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,date
 ,time
 ,[dd_msgs]
 ,[longdate]
```

### Call Invocation Format

```
lastrc := FLMLNK('VERDEL ',sclm_id,
 ,group
 ,type
 ,member
 ,date
```

```
,time
,$msg_array
,[longdate]);
```

### Return Codes

- 0 Normal completion. The audit and version information were deleted.
- 8 Error completion. No audit and version information was deleted. No audit record was found that matches the specified criteria.
- 12 Error completion. Refer to the messages for more information.
- 20 Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32 Severe error condition. An invalid parameter list was passed to the requested service.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## VERINFO - Retrieve Version Information

### Command Invocation Format

```
FLMCMD VERINFO,project
,[prj_def]
,[group]
,[type]
,[member]
,[date]
,[time]
,[user_info_table]
,[include_table]
,[change_code_table]
,[ada_cu_table]
,[FORWARD|BACKWARD|MATCH]
,[dd_msgs]
,[longdate]
```

### Call Invocation Format

```
lastrc := FLMLNK('VERINFO ',sclm_id,
,[group]
,[type]
,[member]
,[date]
,[time]
,[user_info_table]
,[include_table]
,[change_code_table]
,[ada_cu_table]
,[FORWARD|BACKWARD|MATCH]
,$msg_array
,[longdate]);
```

### Return Codes

- 0 Normal completion. An audit record exactly matching the specified criteria was found and the information was stored successfully.
- 8 Error completion. No audit record was found for the specified member.
  - If FORWARD was specified then there are no audit records for the group which match or follow the specified type, member, date and time.

- If BACKWARD was specified then there are no audit records for the group which match or precede the specified type, member, date and time.
  - If MATCH was specified then there is not an audit record with the specified group, type and member name.
- 12 Error completion. Refer to the messages for more information.
- 20 Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32 Severe error condition. An invalid parameter list was passed to the requested service.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## VERRECOV - Recover A Version

### Command Invocation Format

```
FLMCMD VERRECOV,project
 ,[prj_def]
 ,group
 ,type
 ,member
 ,date
 ,time
 ,[to_dataset]
 ,[to_group]
 ,[to_type]
 ,[authcode]
 ,[dd_msgs]
 ,[longdate]
```

### Call Invocation Format

```
lastrc := FLMLNK('VERRECOV',sclm_id,
 ,group
 ,type
 ,member
 ,date
 ,time
 ,to_dataset
 ,to_group
 ,to_type
 ,authcode
 ,$msg_array
 ,[longdate]);
```

### Return Codes

- 0 Normal completion. The audit and version information were recovered.
- 8 Error completion. No audit and version information was recovered. No audit record was found that matches the specified criteria.
- 10 Error completion. No audit and version information was recovered. The member could not be locked with the specified authorization code.
- 12 Error completion. Refer to the messages for more information.
- 20 Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24 Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.



- 32 Severe error condition. An invalid parameter list was passed to the requested service.
- 34 Severe error condition. An invalid service was requested.
- 36 Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

---

## SCLM Macros

### FLMABEG - Define the Project Name of the Project Definition

#### Macro Format

name FLMABEG

### FLMAEND - Last Macro in the Project Definition

#### Macro Format

FLMAEND

### FLMAGRP - Define a Group of Authorization Codes

#### Macro Format

name FLMAGRP AC=(code1,code2,...)

### FLMALLOC - Define Each DDname in the DDname Substitution List for a Translator

#### Macro Format

```
FLMALLOC IOTYPE={A|I|L|N|O|P|S|U|W}
[,BLKSIZE=block_size]
[,CATLG=N|Y]
[,DDNAME=ddname]
[,DINIT=N|Y]
[,DIRBLKS=directory_blocks]
[,DISP=OLD|SHR|MOD|NEW]
[,DFLTMEM=default_member]
[,DFLTYP=default_type]
[,KEYREF=keyword_reference]
[,LANG=language]
[,MALLOC=N|Y]
[,ALLCDEL=N|Y]
[,LRECL=record_length]
[,MEMBER=member_name]
[,NOSAVRC=no_save_rc]
[,PRINT=N|Y|I]
[,RECFM=record_format]
[,RECNUM=number_of_records]
[,INCLS=include_set_name]
```

### FLMALTC - Specify Alternate Control Information

#### Macro Format

```
name FLMALTC
ACCT=primary_accounting_data_set
[,ACCT2=secondary_accounting_data_set]
[,DSNAME=dataset_name]
```

```
[,EXPACCT=export_account_data_set]
[,VERS=primary_audit_control_data_set]
[,VERS2=secondary_audit_control_data_set]
[,VERPDS=version_pds_name]
```

## FLMATVER - Enable the Audit and Version Utility

### Macro Format

```
FLMATVER
 GROUP=group|*
 ,TYPE=type|*
 ,SEQNUM=STANDARD|STD|COBOL|NONE
 [,VERSION=YES|NO]
 [,VERCOUNT=number_to_retain]
```

## FLMCMPLB - Define a Set of Data Sets for a Language Containing Project Compool Dependencies

### Macro Format

```
[language] FLMCMPLB dataset_name
```

## FLMCNTRL - Specify Project-Specific Control Options

### Macro Format

```
FLMCNTRL [ACCT=primary_account_data_set|project.ACCOUNT.FILE]

[,ACCT2=secondary_account_data_set]
[,EXPACCT=export_account_data_set]
[,VERS=primary_audit_control_data_set]
[,VERS2=secondary_audit_control_data_set]
[,VSAMRLS=NO|YES]
[,VERPDS=version_pds_name]
[,VERCOUNT=number_to_retain]
[,DSNAME=dataset_name_pattern]
[,DASDUNIT=DASD_unit_name|SYSALLDA]
[,VIOUNIT=VIO_unit_name|VIO]
[,MAXLINE=max_line_count|60]
[,MAXVIO=max_vio_count|5000]
[,OPTOVER=N|Y]

[,VERCC=change_code_routine]
 [,VERCCDS=change_code_dataset]
 [,VERCCCM=LINK|ATTACH|TSOLNK|ISPLNK]
 [,VERCCOP=change_code_options]

[,CCVFY=initial_change_code_exit_routine]
 [,CCVFYDS=initial_change_code_exit_dataset]
 [,CCVFYCM=LINK|ATTACH|TSOLNK|ISPLNK]
 [,CCVFYOP=initial_change_code_exit_options]

[,CCSAVE=save_change_code_exit_routine]
 [,CCSAVDS=save_change_code_exit_dataset]
 [,CCSAVCM=LINK|ATTACH|TSOLNK|ISPLNK]
 [,CCSAVOP=save_change_code_exit_options]

[,AVDVFY=verify_audit_version_delete_exit_routine]
 [,AVDVFYDS=verify_audit_version_delete_exit_dataset]
 [,AVDVFYCM=LINK|ATTACH|TSOLNK|ISPLNK]
 [,AVDVFYOP=verify_audit_version_delete_exit_options]

[,AVDNTF=notify_audit_version_delete_exit_routine]
 [,AVDNTFDS=notify_audit_version_delete_exit_dataset]
 [,AVDNTFCM=LINK|ATTACH|TSOLNK|ISPLNK]
```

```

[,AVDNTFOP=notify_audit_version_delete_exit_options]

[,BLDINIT=build_initial_user_exit_routine]
[,BLDINIDS=build_initial_user_exit_dataset]
[,BLDINICM=LINK|ATTACH|TSOLNK|ISPLNK]
[,BLDINIOP=build_initial_user_exit_options]

[,BLDNTF=build_notify_user_exit_routine]
[,BLDNTFDS=build_notify_user_exit_dataset]
[,BLDNTFCM=LINK|ATTACH|TSOLNK|ISPLNK]
[,BLDNTFOP=build_notify_user_exit_options]

[,PRMINIT=promote_initial_user_exit_routine]
[,PRMINIDS=promote_initial_user_exit_dataset]
[,PRMINICM=LINK|ATTACH|TSOLNK|ISPLNK]
[,PRMINIOP=promote_initial_user_exit_options]

[,PRMVFY=promote_verify_user_exit_routine]
[,PRMVFYDS=promote_verify_user_exit_dataset]
[,PRMVFYCM=LINK|ATTACH|TSOLNK|ISPLNK]
[,PRMVFYOP=promote_verify_user_exit_options]

[,PRMCPY=promote_copy_user_exit_routine]
[,PRMCPYDS=promote_copy_user_exit_dataset]
[,PRMCPYCM=LINK|ATTACH|TSOLNK|ISPLNK]
[,PRMCPYOP=promote_copy_user_exit_options]

[,PRMPURGE=promote_purge_user_exit_routine]
[,PRMPRGDS=promote_purge_user_exit_dataset]
[,PRMPRGCM=LINK|ATTACH|TSOLNK|ISPLNK]
[,PRMPRGOP=promote_purge_user_exit_options]

[,DELINIT=initial_delete_exit_routine]
[,DELINIDS=initial_delete_exit_dataset]
[,DELINICM=LINK|ATTACH|TSOLNK|ISPLNK]
[,DELINIOP=initial_delete_exit_options]

[,DELVFY=verify_delete_exit_routine]
[,DELVFYDS=verify_delete_exit_dataset]
[,DELVFYCM=LINK|ATTACH|TSOLNK|ISPLNK]
[,DELVFYOP=verify_delete_exit_options]

[,DELNTF=notify_delete_exit_routine]
[,DELNTFDS=notify_delete_exit_dataset]
[,DELNTFCM=LINK|ATTACH|TSOLNK|ISPLNK]
[,DELNTFOP=notify_delete_exit_options]

```

## FLMCPYLB - Identify Additional Data Sets to Be Concatenated to a DDname

### Macro Format

```
FLMCPYLB dataset_name|NULLFILE
```

## FLMGROUP - Define One Group in the Project Definition

### Macro Format

```

name FLMGROUP
[,AC=(code1,code2,...)]
[,ALTC=group_control_options]
[,KEY=N|Y]
[,PROMOTE=next_group]

```

## FLMINCLS - Associate Include-Sets with Types in the Project Hierarchy

### Macro Format

```
name FLMINCLS
 [SAMEAS=flmincls_name_ | Types=(list_of_types)]
 [CROSLANG=Y|N]
```

## FLMLANGL - Define a Language to SCLM

### Macro Format

```
FLMLANGL LANG=language
 [,ALCSYSLIB=N|Y]
 [,ARCH=N|Y]
 [,BUFSIZE=buffer_size|100]
 [,CANEDIT=Y|N]
 [,CHKSYSLB=PARSE|BUILD|IGNORE]
 [,COMPOOL=N|Y]
 [,DEPPRCS=Y|N]
 [,DFLTCRF=default_CREF_reference]
 [,DFLTSRF=default_source_reference]
 [,SCOPE=LIMITED|NORMAL|SUBUNIT|EXTENDED]
 [,VERSION=language_version]
 [,MBRLMT=0]
```

## FLMSYSLB - Define a Set of Data Sets for a Language Containing Project Macros or Included Members

### Macro Format

```
[language] FLMSYSLB dataset_name
 [,INCLS=include_set_name]
```

## FLMTCOND - Select Build Translators Based on Group and Return Codes

### Macro Format

```
FLMTCOND
 [GROUP=group_list|NOTGROUP=group_list]
 [,WHEN=relations_list]
 [,ACTION=RUN|SKIP]
```

## FLMTOPTS - Select the Options Based on Group

### Macro Format

```
FLMTOPTS OPTIONS=options_list
 [,GROUP=group_list|NOTGROUP=group_list]
 [,ACTION=APPEND|REPLACE]
```

## FLMTRNSL - Define Once for Each Translator to Be Invoked for a Language

### Macro Format

```
[translator label] FLMTRNSL CALLNAM='call_name'
 [,FUNCTN=PARSE|VERIFY|BUILD|COPY|PURGE]
 ,COMPILE=translator_name
 [,DSNAME=translator_dataset_name]
 [,GOODRC=good_return_code|0]
```

```
[,NOSVEXT=no_save_external_rc|0]
[,OPTFLAG=N|Y]
[,OPTIONS=option_list]
[,PARMKWD=parameter_keyword]
[,PDSDATA=Y|N]
[,PORDER=0|1|2|3]
[,VERSION=translator_version]
[,CALLMETH=ATTACH|LINK|TSOLNK|ISPLINK]
[,TASKLIB=translator_ddname]
[,INPLIST=N|Y]
[,MBRRC=maximum_good_return_code]
```

**Note:** Refer to the *z/OS ISPF Software Configuration and Library Manager Reference* for information about the two translators FLMTPRE and FLMTPST.

## FLMTYPE - Define One FLMTYPE in the Project Definition

### Macro Format

```
name FLMTYPE [EXTEND=extended_type]
```



---

## Chapter 5. System Variables

The system variables are described with type and pool information in the following tables. The variables are also discussed with the ISPF service to which they apply.

Commonly used system variables that a dialog can access are listed below. They are grouped by topic.

The first column gives the name of the variable. The second column indicates in which pool the variable resides. The following abbreviations are used:

|             |               |
|-------------|---------------|
| <b>func</b> | Function pool |
| <b>shr</b>  | Shared pool   |
| <b>prof</b> | Profile pool  |
| <b>any</b>  | Any pool.     |

The third column indicates the variable's type. The following abbreviations are used:

|            |                                                                |
|------------|----------------------------------------------------------------|
| <b>in</b>  | Input variable, set by a dialog to provide information to ISPF |
| <b>out</b> | Output variable, set by ISPF to provide information to dialogs |
| <b>non</b> | Non-modifiable output variable                                 |
| <b>i/o</b> | Both an input and an output variable.                          |

The fourth column gives the length of the variable.

The fifth column gives a brief description of the variable.

Numeric system variables set by ISPF are right-justified and padded with zeros on the left, if necessary. If a program function uses the VCOPY service to access the variable, the value will be in character string format rather than in fixed binary format.

## Configuration Utility

| Name      | Pool | Type | Len | Description                                                                                                                                                                                                                                                                                                                                                                    |
|-----------|------|------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZCFGCMPTD | shr  | non  | 10  | Current Configuration module compile date. ZCFGCMPTD contains the national language delimiter and contains the date in the format YYYY/MM/DD. For countries that use a delimiter other than a slash (/), that delimiter replaces the slash in the date representation.                                                                                                         |
| ZCFGCMPT  | shr  | non  | 5   | Current Configuration module compile time. ZCFGCMPT contains the national language delimiter and contains the time in the format HH:MM. For countries that use a delimiter other than a colon (:), that delimiter replaces the colon in the time representation.<br><b>Note:</b> This field will be blank for a configuration module compiled with a previous version of ISPF. |
| ZCFGKSR   | shr  | non  | 54  | Keyword source data set and member for the current configuration module.<br><b>Note:</b> This field will be blank for a configuration module compiled with a previous version of ISPF.                                                                                                                                                                                         |
| ZCFGVL    | shr  | non  | 8   | Current Configuration module level.                                                                                                                                                                                                                                                                                                                                            |
| ZCFGMOD   | shr  | non  | 8   | Current Configuration module name.                                                                                                                                                                                                                                                                                                                                             |

## Time and Date

| Name     | Pool | Type | Len | Description                                                                                                                                                                                                                                                                                                                |
|----------|------|------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZDATE    | shr  | non  | 8   | Current date. The format of ZDATE depends on the current national language (see ZDATEF and ZDATEFD).                                                                                                                                                                                                                       |
| ZDATEF   | shr  | non  | 8   | Current national language date format using the characters DD for day, MM for month, and YY for year. ZDATEF contains the national language delimiter. For example, DD/MM/YY, YY/MM/DD, MM.DD.YY. For countries that use a delimiter other than a slash (/), that delimiter replaces the slash in the date representation. |
| ZDATEFD  | shr  | non  | 8   | The date format as described under ZDATEF but with the national language convention instead of DD, MM, and YY.                                                                                                                                                                                                             |
| ZDATESTD | shr  | non  | 8   | Current date with a 4-digit year (YYYY/MM/DD). The format of ZDATESTD depends on the current national language (see ZDATEF and ZDATEFD).                                                                                                                                                                                   |
| ZDAYOFWK | shr  | non  | 8   | The name of the day of the week.                                                                                                                                                                                                                                                                                           |
| ZDAY     | shr  | non  | 2   | Day of month (2 characters)                                                                                                                                                                                                                                                                                                |
| ZJDATE   | shr  | non  | 6   | Day-of-year date (format yy.ddd)                                                                                                                                                                                                                                                                                           |
| ZJ4DATE  | shr  | non  | 8   | Day-of-year date (format yyyy.ddd)                                                                                                                                                                                                                                                                                         |
| ZMONTH   | shr  | non  | 2   | Month of year (2 characters)                                                                                                                                                                                                                                                                                               |
| ZSTDYEAR | shr  | non  | 4   | All 4 digits of the current year (4 characters).                                                                                                                                                                                                                                                                           |
| ZTIME    | shr  | non  | 5   | Time of day (format hh:mm)                                                                                                                                                                                                                                                                                                 |
| ZTIMEL   | shr  | non  |     | Time of day (format hh:mm:ss:TQ —where T is tenths of a second, and Q is hundredths)                                                                                                                                                                                                                                       |
| ZYEAR    | shr  | non  | 2   | Year (2 characters)                                                                                                                                                                                                                                                                                                        |

The current date is displayed in the appropriate format for the session language, where DD=DAY, MM=MONTH, and YY=YEAR. For countries that use a delimiter other than a slash (/), that delimiter replaces the slash in the date representation.



## General

| Name     | Pool | Type | Len | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Z        | shr  | non  | 0   | Null Variable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ZACCTNUM | shr  | non  | 40  | The MVS account number specified at logon time.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ZAPLCNT  | shr  | non  | 4   | Number of times APL invoked for a logical screen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ZAPPLID  | shr  | non  | 8   | Application identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| ZAPPTTL  | any  | in   | N/A | When running in GUI mode, the title to be displayed in the window frame.<br><b>Note:</b> If the panel is to be displayed in a pop-up window, the value specified in ZWINTTL will be used instead of ZAPPTTL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ZBDMAX   | shr  | i/o  | 9   | Maximum number of displays that can occur within a batch mode session. This value is obtained from the BDISPMAX keyword on the ISPSTART command.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ZBDMXCNT | shr  | non  | 9   | Count of current number of displays in a batch mode session                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ZCS      | shr  | non  | 5   | NLS currency symbol                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ZCSDLL   | shr  | non  | 8   | File name of the DLL required for this level of code for the Client/Server                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ZDECS    | shr  | non  | 1   | NLS decimal separator character                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ZDEL     | shr  | i/o  | 1   | The delimiter is used to separate stacked commands. The default delimiter is a semicolon (;).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ZENTKTX  | any  | in   | 12  | When you are running in GUI mode, the name that appears on the Enter key push button. If this variable is not found, "Enter" appears on the push button.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ZENVIR   | shr  | non  | 32  | Environment description:<br><ul style="list-style-type: none"> <li>Characters 1 to 8 contain the product name and sequence number, in the form ISPF x.y. The sequence number x.y indicates the following:<br/> 5.7 means ISPF for z/OS Version 1 Release 7.0<br/> 5.6 means ISPF for z/OS Version 1 Release 6.0<br/> 5.5 means ISPF for z/OS Version 1 Release 5.0<br/> 5.2 means ISPF for z/OS Version 1 Release 2.0<br/> 5.0 means ISPF for z/OS Version 1 Release 1.0<br/> OR<br/> 5.0 means ISPF for OS/390 Version 2 Release 10.0<br/> 4.8 means ISPF for OS/390 Version 2 Release 8.0</li> </ul> <b>Note:</b> See also the system variables ZISPFOS and ZOS390RL.<br><ul style="list-style-type: none"> <li>Characters 9 to 16 contain the generic operating system name (MVS).</li> <li>Characters 17 to 24 contain the operating system environment (TSO or BATCH).</li> <li>Characters 25 to 32 contain blanks and are reserved.</li> </ul> |
| ZEURO    | shr  | non  | 1   | The EURO currency symbol.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| ZGUI     | shr  | non  | 68  | Workstation address or name (in character format) if ISPSTART is issued with the GUI parameter or if specified on the Settings GUI invocation panel. ZGUI will be set to blank if ISPSTART is issued without the GUI parameter or if GUI is not invoked from the Settings panel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| ZISPFOS  | shr  | non  | 30  | The level of ISPF code that is running as part of z/OS on your system. This level might or might not match the z/OS level found in ZOS390RL.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ZISPFRC  | shr  | in   | 8   | Return code from ISPSTART-selected dialog to invoking application.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## System Variables

| Name     | Pool | Type | Len | Description                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------|------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZKEYHELP | any  | in   | 8   | Keys help panel identifier. If a keys help panel is not specified on the referenced keylist, the application can provide the keys help panel name in this variable. If the help panel name is present as part of the referenced keylist definition, it takes precedence over the ZKEYHELP value. This system variable must be redefined each time the keys help panel is to change. |
| ZLANG    | prof | non  | 8   | Session language                                                                                                                                                                                                                                                                                                                                                                    |
| ZLOGO    | shr  | non  | 3   | Indicates whether the user has requested bypass of LOGO panel. NO indicates that the user has specified the NOLOGO keyword at the time ISPF was called, thus, requesting that the LOGO panel be bypassed. Otherwise, the value of the variable will be YES.                                                                                                                         |
| ZLOGON   | shr  | non  | 8   | Stepname of TSO logon procedure                                                                                                                                                                                                                                                                                                                                                     |
| ZOS390RL | shr  | non  | 16  | Indicates the z/OS release running on your system.                                                                                                                                                                                                                                                                                                                                  |
| ZPANELID | shr  | non  | 8   | The name of the currently displayed panel.                                                                                                                                                                                                                                                                                                                                          |
| ZPFKEY   | shr  | non  | 4   | The name of the PF key (PFxx) in effect when the user exits the panel. If ZPFKEY = PF00 then no PF key is in effect.                                                                                                                                                                                                                                                                |
| ZPLACE   | prof | i/o  | 7   | Command line placement (ASIS or BOTTOM)                                                                                                                                                                                                                                                                                                                                             |
| ZPREFIX  | shr  | non  | 8   | TSO user prefix                                                                                                                                                                                                                                                                                                                                                                     |
| ZPROFAPP | prof | in   | 8   | Name of application profile pool extension table                                                                                                                                                                                                                                                                                                                                    |
| ZSCRCUR  | shr  | non  | 4   | Displays the number of logical screens currently in use.                                                                                                                                                                                                                                                                                                                            |
| ZSCREENC | shr  | non  | 5   | Cursor position within the logical screen data.                                                                                                                                                                                                                                                                                                                                     |
| ZSCREENI | shr  | non  | ?   | Logical screen data. Size depends upon your screen size.                                                                                                                                                                                                                                                                                                                            |
| ZSCRNAME | shr  | in   | 8   | Screen name set by dialog. The screen name is in effect only for the select level in which it was defined. Option 7.3 can alter ZSCRNAME, but this will have no impact.                                                                                                                                                                                                             |
| ZSCRMAX  | shr  | non  | 4   | Displays the number of logical screens allowed by the installation.                                                                                                                                                                                                                                                                                                                 |
| ZSCTPREF | shr  | non  | 4   | First site command table prefix                                                                                                                                                                                                                                                                                                                                                     |
| ZSCTPRE2 | shr  | non  | 4   | Second site command table prefix                                                                                                                                                                                                                                                                                                                                                    |
| ZSCTPRE3 | shr  | non  | 4   | Third site command table prefix                                                                                                                                                                                                                                                                                                                                                     |
| ZSCTSRCH | shr  | non  | 1   | Search order for site command tables relative to system command table. Set to either B (Before ISP) or A (After ISP).                                                                                                                                                                                                                                                               |
| ZSM      | shr  | i/o  | 3   | Indicates whether session manager panels will be used for ISPF options 4 and 6. This variable is initialized from the ISPF configuration table keyword USE_SESSION_MANAGER at startup and stored in the shared variable pool. Once initialized it can only be changed with Option 0 - Settings or by use of the RESET_USE_SESSION_MANAGER configuration option.                     |
| ZSYSICON | shr  | non  | 8   | The 8-character variable that contains the command to be executed when the system icon is double-clicked or <b>close</b> is selected.                                                                                                                                                                                                                                               |
| ZSYSID   | shr  | non  | 8   | The 8-character SYSNAME obtained from the SYS1.PARMLIB member IEASYSxx which is read at IPL time. NONAME is the default value of SYSNAME. The operator can change this value at IPL time. See the <i>z/OS MVS Initialization and Tuning Reference</i> for more information.                                                                                                         |

| Name     | Pool | Type | Len   | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|----------|------|------|-------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZSYSNODE | shr  | non  | 12    | <p>The network node name of your installation's JES. This name identifies the local JES in a network of systems or system complexes being used for network job entry (NJE) tasks. The node name returned in ZSYSNODE derives from the NODE initialization statement of JES.</p> <p>If the system finds that the subsystem is not active, the ZSYSNODE variable contains the string -INACTIVE- (note the string delimiters).</p> <p>If the system finds that the subsystem is neither JES2 4.3 or later, nor JES3 5.1.1 or later, the ZSYSNODE variable contains the string ' -DOWNLEVEL-' (note the string delimiters).</p> <p>The value in ZSYSNODE remains the same throughout the ISPF session. <b>Note:</b> If, for instance, the JES subsystem is taken down during an ISPF session and the node name is changed, the value in ZSYSNODE will still contain the value as determined at ISPF initialization.</p> |
| ZSYSPLEX | shr  | non  | 8     | The MVS sysplex name as found in the COUPLExx or LOADxx member of SYS1.PARMLIB. If no sysplex name is specified in SYS1.PARMLIB, ZSYSPLEX contains blanks.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ZSYSPROC | shr  | non  | 8     | TSO Logon Procedure name. In foreground, will have the name of the current logon procedure; in batch, will have the value 'INIT'; a Started Task will have the Started Task procedure name.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| ZTEMPF   | shr  | non  | 44    | Name of temporary data set for file tailoring output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| ZTEMPN   | shr  | non  | 8     | DDNAME of temporary data set for file tailoring output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| ZTERMCID | shr  | non  | 5     | CCSID coded character set identifier of the terminal. Set by ISPF based on the code page and character set of the terminal. If the terminal code page and character set cannot be queried or if they are not supported by ISPF, this variable will be blank.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ZTERMCP  | shr  | non  | 4     | CECP support 4-digit code page.<br><b>Note:</b> ZTERMCS is defined as character length 4. It cannot handle 5-character Character Sets. For example, the Character Set 65535 is displayed in ZTERMCS as "5535". This does not mean that ISPF has defined Character Set 5535 (X'159F'). Two other Z variables, ZTERMCS5 and ZTERMCP5, for Character Set and Code Page respectively, were created to handle 5-character Character Sets and Code Pages. For example, the Character Set 65535 is displayed in ZTERMCP5 as 65535.                                                                                                                                                                                                                                                                                                                                                                                         |
| ZTERMCP5 | shr  | non  | 5     | CECP support 5-digit code page                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ZTERMCS5 | shr  | non  | 5     | CECP support 5-character set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ZTERMCS  | shr  | non  | 4     | CECP support 4-digit character set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| ZTHS     | shr  | non  | 1     | NLS thousands separator character                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ZTS      | shr  | non  | 1     | NLS time separator character                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| ZTSICMD  | shr  | non  | 32767 | The entire initial invocation command string which invoked the ISPF environment. If storage cannot be obtained at startup, only the first 50 characters will be saved. The maximum length is 32767.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| ZTSSCMD  | shr  | non  | 32767 | SELECT portion of the initial invocation command. The maximum length is 32767.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ZUCTION  | shr  | non  | 4     | First user command table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ZUCTION2 | shr  | non  | 4     | Second user command table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| ZUCTION3 | shr  | non  | 4     | Third user command table name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ZUSER    | shr  | non  | 8     | User ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ZVERB    | shr  | out  | 8     | Command verb after a SETVERB command table action                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## System Variables

| Name     | Pool | Type | Len | Description                                                                                                                                                                                                                                                                                          |
|----------|------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZWINTTL  | any  | in   | N/A | Title to be displayed in pop-up window frame                                                                                                                                                                                                                                                         |
| ZWSCDPG  | shr  | non  | 4   | When running in GUI mode, the code page of the workstation. When not running in GUI mode, value will be blank.                                                                                                                                                                                       |
| ZWSCON   | shr  | non  | 68  | TCP/IP or APPC address when ISPF session is connected to a workstation.                                                                                                                                                                                                                              |
| ZWSOPSYS | shr  | non  | 16  | Operating system of workstation to which the session is connected. The first 10 characters are the operating system name, followed by a blank, followed by two 2-digit numbers separated by a blank. These numbers are returned to ISPF from the operating system and change by version and release. |

## Terminal and Function Keys

| Name    | Pool | Type | Len | Description                                                                                                                                                                                                                                                              |
|---------|------|------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZCOLORS | shr  | non  | 4   | Number of colors supported by the terminal type (either 1 or 7)                                                                                                                                                                                                          |
| ZDBCS   | shr  | non  | 3   | DBCS terminal capability (YES or NO)                                                                                                                                                                                                                                     |
| ZFKA    | prof | non  | 8   | Current state of the function key area form (LONG, SHORT, OFF (no display))                                                                                                                                                                                              |
| ZGE     | shr  | non  | 3   | Terminal support for graphic escape order: <ul style="list-style-type: none"><li>• YES — graphic escape is supported</li><li>• NO — graphic escape is not supported.</li></ul> <b>Note:</b> If you are running in GUI mode, ZGE will be set to Off.                      |
| ZHILITE | shr  | non  | 3   | Extended highlighting availability (YES or NO)                                                                                                                                                                                                                           |
| ZKEYS   | prof | out  | 4   | Number of Function keys                                                                                                                                                                                                                                                  |
| ZKLAPPL | shr  | non  | 4   | If KEYLIST is ON and it is a panel with the )PANEL statement, this contains the application id where the current keylist came from.                                                                                                                                      |
| ZKLNAME | shr  | non  | 8   | If KEYLIST is ON and it is a panel with the )PANEL statement, this contains the name of the current keylist.                                                                                                                                                             |
| ZKLTYPE | shr  | non  | 1   | If KEYLIST is ON and it is a panel with the )PANEL statement, this contains either P (for Private) or S (for Shared) for the current keylist.                                                                                                                            |
| ZKLUSE  | prof | i/o  | 1   | If KEYLIST is ON this contains Y, if it is OFF, it contains an N.                                                                                                                                                                                                        |
| ZPFCTL  | prof | i/o  | 5   | User authorization to use PFSHOW command <ul style="list-style-type: none"><li>• USER—User controls function key display with PFSHOW command</li><li>• ON—Display function key definitions on all panels</li><li>• OFF—Do not display function key definitions</li></ul> |
| ZPFFMT  | prof | i/o  | 4   | Number of Function key definitions displayed per line <ul style="list-style-type: none"><li>• SIX—Always display six keys per line</li><li>• MAX—Display as many keys as will fit on each line</li></ul>                                                                 |
| ZPFSET  | prof | i/o  | 4   | Function key definition set displayed <ul style="list-style-type: none"><li>• PRI—Primary set (1–12)</li><li>• ALT—Alternate set (13–24)</li><li>• ALL—All keys (1–24)</li></ul>                                                                                         |
| ZPFSHOW | prof | out  | 4   | PFSHOW command status                                                                                                                                                                                                                                                    |

| Name     | Pool | Type | Len | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------|------|------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZPFxx    | prof | i/o  | 255 | Setting for Function keys:<br><br>ZPF13-ZPF24 contain settings for the primary keys (for 12-key terminals: physical keys 1-12; for 24-key terminals: physical keys 13-24)<br><br>ZPF01-ZPF12 contain settings for the alternate keys (for 24-key terminals only: physical keys 1-12)<br><br>The maximum length is 255.                                                                                                                                                                                                                                                                                                        |
| ZPFLxx   | prof | i/o  | 8   | Setting for Function key labels:<br><br>ZPFL13-ZPFL24 contain labels for the primary keys<br><br>ZPFL01-ZPFL12 contain labels for the alternate keys                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| ZPRIKEYS | prof | i/o  | 4   | Indicates the set of Function keys that will be the primary keys <ul style="list-style-type: none"> <li>• LOW—1 to 12 are primary keys</li> <li>• UPP—13 to 24 are primary keys</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| ZSCREEN  | shr  | non  | 1   | Logical screen number up to 32 screens (1–9, A–W)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| ZSCREEND | shr  | non  | 4   | Screen depth available for dialog use. In batch mode, this variable is set by the value specified for BATSCRD on the ISPSTART call.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| ZSCREENW | shr  | non  | 4   | Screen width available for dialog use. In batch mode this variable is set by the value specified for BATSCRW on the ISPSTART call.<br><br>ZSCREEND and ZSCREENW are generally the dimensions of the physical display screen. There are two exceptions: <ol style="list-style-type: none"> <li>1. On a 3290, if a dialog is executing on a display with a width of 160 characters and the user does a vertical split, then ZSCREENW is 80.</li> <li>2. On a 3278 model 5, if a user has specified SCREEN FORMAT IS STD, then ZSCREENW is 80 and ZSCREEND is 24, rather than the maximum physical size of 132 by 27.</li> </ol> |
| ZSCRMAXD | shr  | non  | 4   | Maximum screen depth available for dialog use. In batch mode, this variable is set by the value specified for BATSCRD on the ISPSTART call.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| ZSCRMAXW | shr  | non  | 4   | Maximum screen width available for dialog use. In batch mode, this variable is set by the value specified for BATSCRW on the ISPSTART call.<br><br>ZSCRMAXD and ZSCRMAXW are identical to ZSCREEND and ZSCREENW, except for terminals on which an alternate size is available. In that case, ZSCRMAXD and ZSCRMAXW contain the screen configuration size that produces the largest screen.<br><br>For the 3290, these variables contain sizes of the hardware partition on which ISPF is operating.                                                                                                                           |
| ZSPLIT   | shr  | non  | 3   | Split-screen mode in effect (YES or NO)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| ZTERM    | prof | out  | 8   | Terminal type as defined by option 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Scrolling

| Name  | Pool | Type | Len | Description                                                                                                             |
|-------|------|------|-----|-------------------------------------------------------------------------------------------------------------------------|
| ZAMT  | prof | i/o  | 4   | Scroll amount for functions such as Dialog Test, the Keylist Utility, the Command Table Utility, and the LIBDEF Utility |
| ZSCBR | prof | i/o  | 4   | Scroll amount for the BROWSE service                                                                                    |
| ZSCED | prof | i/o  | 4   | Scroll amount for the EDIT service                                                                                      |

## System Variables

| Name     | Pool | Type | Len | Description                                                                                                                                                                                                             |
|----------|------|------|-----|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZSCML    | prof | i/o  | 4   | Scroll amount for member lists                                                                                                                                                                                          |
| ZSCRML   | shr  | non  | 1   | Specifies if ISPF should scroll to the first member selected in the member list after processing or disable the member list from automatic scrolling and instead place the cursor in front of the last member selected. |
| ZSCROLLA | shr  | out  | 4   | Value from scroll amount field (PAGE, MAX, number)                                                                                                                                                                      |
| ZSCROLLD | any  | in   | 4   | Value to be used as default scroll value for scrollable dynamic areas and table display                                                                                                                                 |
| ZSCROLLN | shr  | out  | 4   | Scroll number as computed from the value in the scroll amount field                                                                                                                                                     |
| ZXSMAX   | shr  | non  | 4   | Maximum scroll amount allowed to be used in any scroll operation.                                                                                                                                                       |
| ZXSMIN   | shr  | non  | 4   | Minimum scroll amount allowed to be used in any scroll operation.                                                                                                                                                       |
| ZUSC     | prof | i/o  | 4   | Scroll amount for the Data Set List Utility                                                                                                                                                                             |

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## PRINTG Command

| Name    | Pool | Type | Len | Description                                |
|---------|------|------|-----|--------------------------------------------|
| ZASPECT | func | in   | 4   | Aspect ratio of printed output from PRINTG |
| ZDEVNAM | func | in   | 8   | Device name for PRINTG                     |
| ZFAMPRT | func | non  | 4   | Family printer type for PRINTG             |

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## Table Display Service

| Name     | Pool | Type   | Len      | Description                                                                                                                               |
|----------|------|--------|----------|-------------------------------------------------------------------------------------------------------------------------------------------|
| ZTDADD   | func | out    | 3        | More rows needed to satisfy scroll request (YES NO)                                                                                       |
| ZTDAMT   | func | out    | 4        | Number of rows that the dialog should add to satisfy scroll                                                                               |
| ZTDLROWS | func | in     | 6        | Number of rows in the logical table (dynamic table expansion)                                                                             |
| ZTDLTOP  | func | in     | 6        | Maps current top row in physical table to its position in logical table.                                                                  |
| ZTDMARK  | any  | in     | See note | User-defined text for table display Bottom-of-Data marker<br><b>Note:</b> Value can be any length that is not more than the screen width. |
| ZTDMSG   | any  | in     | 8        | User-defined message ID for table display top-row-displayed indicator                                                                     |
| ZTDRET   | func | in     | 8        | Defines whether dialog wants to use scroll return feature.                                                                                |
| ZTDROWS  | func | out    | 6        | Number of table rows upon return from table display                                                                                       |
| ZTDSCRP  | func | in/out | 6        | CRP of top row to be displayed after the scroll                                                                                           |
| ZTDSELS  | func | out    | 4        | Number of selected table rows upon return from each table display                                                                         |
| ZTDSIZE  | func | out    | 4        | Size (number of model sets) of the table display scrollable section                                                                       |
| ZTDSRID  | func | out    | 6        | Rowid of the row pointed to by ZTDSCRP                                                                                                    |
| ZTDTOP   | func | out    | 6        | Row number (CRP) of top row displayed during most recent table display                                                                    |

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## LIST Service

| Name    | Pool | Type | Len | Description                               |
|---------|------|------|-----|-------------------------------------------|
| ZLSTLPP | shr  | non  | 4   | Number of lines per page in list data set |

| Name     | Pool | Type | Len | Description                                           |
|----------|------|------|-----|-------------------------------------------------------|
| ZLSTNUML | shr  | non  | 4   | Number of lines written to current list data set page |
| ZLSTTRUN | shr  | non  | 4   | List data set record length truncation value          |

---

## LOG and LIST Data Sets

| Name     | Pool | Type | Len | Description                                                      |
|----------|------|------|-----|------------------------------------------------------------------|
| ZLOGNAME | shr  | non  | 44  | Contains the fully qualified data set name of the log data set.  |
| ZLSTNAME | shr  | non  | 44  | Contains the fully qualified data set name of the list data set. |

---

## Dialog Error

| Name     | Pool | Type | Len | Description                                      |
|----------|------|------|-----|--------------------------------------------------|
| ZERRALRM | func | out  | 3   | Message alarm indicator (YES or NO)              |
| ZERRHM   | func | out  | 8   | Name of help panel associated with error message |
| ZERRLM   | func | out  | 512 | Long error message text                          |
| ZERRMSG  | func | out  | 8   | Error message-id                                 |
| ZERRSM   | func | out  | 24  | Short error message text                         |
| ZERRTYPE | func | out  | 8   | Error message type                               |
| ZERRWIND | func | out  | 6   | Error message window type                        |

---

## Tutorial Panels

| Name    | Description                     |
|---------|---------------------------------|
| ZCONT   | Name of next continuation panel |
| ZHINDEX | Name of first index panel       |
| ZHTOP   | Name of top panel               |
| ZIND    | YES specifies an index page     |
| ZUP     | Name of parent panel            |

---

## Selection Panels

| Name    | Description                                            |
|---------|--------------------------------------------------------|
| ZCMD    | Command input field                                    |
| ZPARENT | Parent menu name (when in <i>explicit chain mode</i> ) |
| ZPRIM   | YES specifies panel is a primary option menu           |
| ZSEL    | Command input field truncated at first period          |

---

**DTL Panels or Panels Containing a )PANEL Section**

| Name    | Pool | Type | Len | Description                                                                                                                                                                                             |
|---------|------|------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZCURFLD | func | out  | 8   | Name of field (or list column) containing the cursor when the user exits the panel.                                                                                                                     |
| ZCURINX | func | out  | 8   | For table display panels, the current row number of the table row containing the cursor. The value ZCURINX is in character format. If the cursor is not within a table row, this value will be 0.       |
| ZCURPOS | func | out  | 4   | Position of the cursor within the field specified by ZCURFLD when the user exits the panel. The value in ZCURPOS is in character format. If the cursor is not within a field, ZCURPOS will contain a 1. |

**Note:** These variables will contain the values that would result if they were set to .CURSOR, .CSRPOS, and .CSRROW, as the first statements in the panel's )PROC section.



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## Chapter 6. Dialog Variables

This appendix describes the ISPF dialog variables.

The following table lists the dialog function pool variables that are both read from and written to by several of the PDF library access services. For details of function pool variables written by other services, refer to the *z/OS ISPF Services Guide*.

The variables are listed in alphabetical order. The first column lists the variable name. The second column indicates the variable's type, which corresponds to the format parameter of the ISPF VDEFINE service. The third column specifies the variable's length, which corresponds to the length parameter of the VDEFINE service.

The fourth column lists the PDF services that either read from or write to the variable. An R in parentheses (R) after a service name indicates that the service, when called, reads from the given variable. A W in parentheses (W) after a service name indicates that the service, when called, writes to the given variable. All variables are available to a dialog unless otherwise indicated.

The last column contains a brief description of the contents of the variable and any restrictions on the value of the variable.

## Dialog Variables

| Variable Name | Format | Length       | Service (Access)                   | Description                                                                                                                                            |
|---------------|--------|--------------|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZCMD          | Char   | 256          | LMMDISP(W)                         | Primary Command field from member list panel if the command is not a valid ISPF or PDF primary command.                                                |
| ZDLBLKSZ      | Char   | 5            | LMDLIST(W)                         | Block size.                                                                                                                                            |
| ZDLCATNM      | Char   | 44           | LMDDISP(R),<br>LMDLIST(W)          | Name of the catalog in which the data set was located.                                                                                                 |
| ZDLCDATE      | Char   | 10           | LMDLIST(W)                         | Creation date.                                                                                                                                         |
| ZDLDEV        | Char   | 8            | LMDLIST(W)                         | Device type.                                                                                                                                           |
| ZDLDSNTP      | Char   | 8            | LMDLIST(W)                         | DS name type ('PDS', 'LIBRARY', or ' ').                                                                                                               |
| ZDLDSORG      | Char   | 4            | LMDLIST(W)                         | Data set organization.                                                                                                                                 |
| ZDLEDATE      | Char   | 10           | LMDLIST(W)                         | Expiration date.                                                                                                                                       |
| ZDLEXT        | Char   | 3            | LMDLIST(W)                         | Number of extents used.                                                                                                                                |
| ZDLEXTX       | Char   | 5            | LMDLIST(W)                         | Number of extents used (long format).                                                                                                                  |
| ZDLLRECL      | Char   | 5            | LMDLIST(W)                         | Logical record length.                                                                                                                                 |
| ZDLMIGR       | Char   | 3            | LMDLIST(W)                         | Whether the data set is migrated ('YES' or 'NO').                                                                                                      |
| ZDLRDATE      | Char   | 10           | LMDLIST(W)                         | Date last referenced.                                                                                                                                  |
| ZDLRECFM      | Char   | 5            | LMDLIST(W)                         | Record format.                                                                                                                                         |
| ZDLSIZE       | Char   | 6            | LMDLIST(W)                         | Data set size in tracks.                                                                                                                               |
| ZDLSIZEEX     | Char   | 12           | LMDLIST(W)                         | Data set size in tracks (long format).                                                                                                                 |
| ZDLSPACU      | Char   | 10           | LMDLIST(W)                         | Space units, one of the following: CYLINDERS, MEGABYTES, KILOBYTES, BYTES, BLOCKS or TRACKS.                                                           |
| ZDLUSED       | Char   | 3            | LMDLIST(W)                         | Percentage of used tracks or pages (PDSE).                                                                                                             |
| ZDLVOL        | Char   | 6            | LMDLIST(W)                         | Volume serial.                                                                                                                                         |
| ZDSN          | Char   | 44           | LMMDISP(W)                         | Name of the first or only data set in the concatenation of the member list being displayed. This variable is only available for member list panels.    |
| ZDST          | Char   | 54           | BRIF (W) EDIF (W)                  | Title line data name for EDIF and BRIF.                                                                                                                |
| ZEDBDSN       | Char   | 44           | EDIT (R)<br>EDREC(W)               | Backup data set name for standard edit recovery.                                                                                                       |
| ZEDITCMD      | Char   | 8            | Any EDIT macro                     | The last primary command entered in Edit.                                                                                                              |
| ZEDROW        | Fixed  | 4            | EDIT (R)<br>EDREC(W)               | Row number of entry in standard edit recovery table.                                                                                                   |
| ZEDSAVE       | Char   | 8            | Data_changed EDIT<br>macro command | END command will save data (SAVE or NOSAVE).                                                                                                           |
| ZEDTDSN       | Char   | 44           | EDIT (R)<br>EDREC(W)               | Target data set name for standard edit recovery.                                                                                                       |
| ZEDTMCMD      | Char   | 8            | Any Edit macro                     | The edit command entered that caused an edit macro to run. Can be the macro name or other name is the edit DEFINE command was used to define an alias. |
| ZEDTMEM       | Char   | 8            | EDIT (R)<br>EDREC(W)               | Target member name (if applicable) for standard edit recovery.                                                                                         |
| ZEDTRD        | Char   | 6            | EDIT (R)<br>EDREC(W)               | Volume serial of target data set for standard edit recovery.                                                                                           |
| ZEDUSER       | Char   | <sup>1</sup> | EDIT (R)<br>EDREC(W)               | User data table extension for standard edit recovery.                                                                                                  |

| Variable Name | Format | Length       | Service (Access)                                                  | Description                                                                                                                                                                                                                                         |
|---------------|--------|--------------|-------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZEIBSDN       | Char   | 54           | EDIF (R)<br>EDIREC(W)                                             | Backup data name for EDIF edit recovery.                                                                                                                                                                                                            |
| ZEIROW        | Fixed  | 4            | EDIF (R)<br>EDIREC(W)                                             | Row number of entry in EDIF edit recovery table.                                                                                                                                                                                                    |
| ZEITDSN       | Char   | 54           | EDIF (R)<br>EDIREC(W)                                             | Target data name for EDIF edit recovery.                                                                                                                                                                                                            |
| ZEIUSER       | Char   | <sup>1</sup> | EDIF (R)<br>EDIREC(W)                                             | User data table extension variable for EDIF edit recovery.                                                                                                                                                                                          |
| ZERRALRM      | Char   | 3            | ALL(W)                                                            | The value YES if an alarm was specified in the message definition; otherwise, the value NO. Set when ISPF services issue a return code of 8 or greater.                                                                                             |
| ZERRHM        | Char   | 8            | ALL(W)                                                            | The name of a Help panel, if one was specified in the message definition. Set when ISPF services issue a return code of 8 or greater.                                                                                                               |
| ZERRLM        | Char   | 512          | ALL(W)                                                            | Long-message text in which variables have been resolved. Set when ISPF services issue a return code of 8 or greater.                                                                                                                                |
| ZERRMSG       | Char   | 8            | ALL(W)                                                            | Message ID. Set when ISPF services issue a return code of 8 or greater.                                                                                                                                                                             |
| ZERRSM        | Char   | 24           | ALL(W)                                                            | Short-message text in which variables have been resolved. Set when ISPF services issue a return code of 8 or greater.                                                                                                                               |
| ZGRPLVL       | Char   | 8            | LMHIER (W)                                                        | ISPF table variable that contains the level of this ISPF library in the controlled hierarchy.                                                                                                                                                       |
| ZGRPNME       | Char   | 8            | LMHIER (W)                                                        | ISPF table variable that contains the ISPF library group name.                                                                                                                                                                                      |
| ZLAC          | Char   | 2            | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                            | Authorization code of the member.                                                                                                                                                                                                                   |
| ZLALIAS       | Char   | 8            | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                            | Name of the real member of which this member is an alias.                                                                                                                                                                                           |
| ZLAMODE       | Char   | 3            | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                            | AMODE of the member.                                                                                                                                                                                                                                |
| ZLATTR        | Char   | 20           | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                            | Load module attributes. Refer to the <i>ISPF Services Guide</i> .                                                                                                                                                                                   |
| ZLCDATE       | Char   | 8            | LMMAADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Date on which the specified member was created. A character string in the national format. For example, yy/mm/dd or mm/dd/yy. If no value exists for this variable, the PDF component will set the value to blanks.                                 |
| ZLC4DATE      | Char   | 10           | LMMAADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(W) | Date on which the specified member was created, in 4-character year format. A character string in the national format. For example, yyyy/mm/dd or mm/dd/yyyy. If no value exists for this variable, the PDF component will set the value to blanks. |

## Dialog Variables

| Variable Name | Format | Length | Service (Access)                                                 | Description                                                                                                                                                                                                                                                                |
|---------------|--------|--------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZLCNORC       | Fixed  | 4      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Current number of records in the specified member. A number from 0 to 65 535. If no value exists for this variable, the PDF component will set the value to blanks.                                                                                                        |
| ZLINORC       | Fixed  | 4      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Number of records in the specified member when it was first created. A number from 0 to 65 535.                                                                                                                                                                            |
| ZLLIB         | Fixed  | 4      | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                           | Position of the specified member in the concatenated data sets. A number from 1 to 4.                                                                                                                                                                                      |
| ZLMDATE       | Char   | 8      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Date on which the specified member was last modified. A character string in the national format. (For example, <i>yy/mm/dd</i> or <i>mm/dd/yy</i> .) If no value exists for this variable, the PDF component will set the value to blanks.                                 |
| ZLM4DATE      | Char   | 10     | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(W) | Date on which the specified member was last modified, in 4-character year format. A character string in the national format. (For example, <i>yyyy/mm/dd</i> or <i>mm/dd/yyyy</i> .) If no value exists for this variable, the PDF component will set the value to blanks. |
| ZLMEMBER      | Char   | 8      | LMMDISP(W)                                                       | Name of the current selected member.                                                                                                                                                                                                                                       |
| ZLMNORC       | Fixed  | 4      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | The number of records that have been modified in the specified member. A number from 0 to 65 535.                                                                                                                                                                          |
| ZLMOD         | Fixed  | 4      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Modification level of the specified member. A number from 0 to 99.                                                                                                                                                                                                         |
| ZLMTIME       | Char   | 5      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Time when the specified member was last modified. A character string in the form <i>hh:mm</i> .                                                                                                                                                                            |
| ZLMSEC        | Char   | 2      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Seconds value of last modified time.                                                                                                                                                                                                                                       |
| ZLSSI         | Char   | 8      | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                           | SSI (System Status Index) of the load module.                                                                                                                                                                                                                              |
| ZLPDSUDA      | Char   | 62     | LMMDISP(W)                                                       | A character string containing the contents of the user data area in the PDS directory entry of the specified member if the member's statistics are not in PDF format.                                                                                                      |

| Variable Name | Format | Length | Service (Access)                                                 | Description                                                                                                                                                                                                                                          |
|---------------|--------|--------|------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZLRMODE       | Char   | 3      | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                           | RMODE of the member.                                                                                                                                                                                                                                 |
| ZLSIZE        | Char   | 8      | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                           | Load module size (in Hex).                                                                                                                                                                                                                           |
| ZLTTR         | Char   | 6      | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                           | TTR of the member.                                                                                                                                                                                                                                   |
| ZLUSER        | Char   | 7      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | User ID of user who last modified the specified member.                                                                                                                                                                                              |
| ZLVERS        | Fixed  | 4      | LMMADD(R)<br>LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)<br>LMMREP(R) | Version number of the specified member. A number from 1 to 99. If no value exists for this variable, the PDF component will set the value to blanks.                                                                                                 |
| ZMEMCNT       | Char   | 8      | LMMLIST(W)                                                       | Number of members in the member list.                                                                                                                                                                                                                |
| ZMLCOLS       | Char   | 80     | LMMDISP(W)                                                       | A character string that contains the member statistics column headings that appear on the member list panel display. This variable is only available for member list panels.                                                                         |
| ZMLCR         | Fixed  | 4      | LMMDISP(W)                                                       | The relative number in the member list of the member that appears at the top of the member list display. Its range is from 1–99 999. This variable is only available for member list panels.                                                         |
| ZMLTR         | Fixed  | 4      | LMMDISP(W)                                                       | Number of members in the member list. Its range is from 1–99 999. This variable is only available for member list panels.                                                                                                                            |
| ZMSRTFLD      | Char   | 8      | ALL(W)                                                           | Contains the field name used to sort a member list. Field name corresponds to the title line used in member list panels, with the exceptions of the 'VV MM' field which is returned as VVMM, and the attributes field which is returned as ATTRIBUT. |
| ZSCALIAS      | Char   | 1      | LMINIT(W)                                                        | Data set name is an alias ('Y' or 'N').                                                                                                                                                                                                              |
| ZSCLM         | Char   | 1      | LMMDISP(W)<br>LMMFIND(W)<br>LMMLIST(W)                           | Last updater of member. 'Y' indicates SCLM was last updater. 'N' indicates PDF.                                                                                                                                                                      |
| ZSCMVOL       | Char   | 1      | LMINIT(W)                                                        | Data set name is multivolume ('Y' or 'N').                                                                                                                                                                                                           |
| ZUSERMAC      | Char   | 9      | EDIT(R) EDIF(R)<br>VIEW(R) VIIF(R)                               | Application-wide edit macro.                                                                                                                                                                                                                         |

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1. Length limited only by ISPF restrictions on the length of table extension variables.

## PDF Non-Modifiable Variables

The following read-only variables are available to PDF component dialogs:

| Variable Name | Format | Length | Service (Access) | Description                                                                                                                                                                                                                                                                                     |
|---------------|--------|--------|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ZCUNIT        | Char   | 8      | none             | Unit name to be used for temporary allocations. This variable comes from ISPF configuration table keyword PDF_DEFAULT_UNIT.                                                                                                                                                                     |
| ZCUSIZE       | Fixed  | 4      | none             | Number of kilobytes available for use by the edit UNDO command when running in SETUNDO STORAGE mode. This variable comes from ISPF configuration table Keyword UNDO_STORAGE_SIZE. See <i>z/OS ISPF Edit and Edit Macros</i> for further information.                                            |
| ZICFPRT       | Char   | 3      | none             | ICF indicator. 'YES' - All foreground print requests will be processed using ICF. 'NO' - ICF will not be used. This variable comes from ISPF configuration table keyword PRINT_USING_ICF.                                                                                                       |
| ZPDFREL       | Char   | 8      | none             | PDF version number in the form "PDF x.y ". The x.y is a sequence number. If x.y: <ul style="list-style-type: none"> <li>• &lt;= 4.2 means the x.y version.release of PDF</li> <li>• = 4.3 means ISPF for OS/390 Release 2</li> <li>• = 4.4 means PDF 4.2.1 and ISPF OS/390 Release 3</li> </ul> |
| ZSESS         | Char   | 8      | none             | This variable contains either 'Y' or 'N' and comes from the ISPF configuration table keyword USE_SESSION_MANAGER. See the description of the general system variable ZSM for additional information.                                                                                            |
| ZSWIND        | Char   | 4      | none             | Sliding window value used by PDF for determining the century of 2-character years. This variable comes from ISPF configuration table keyword YEAR_2000_SLIDING_RULE. Dates less than or equal to this value are 20xx. Dates greater than this value are 19xx.                                   |

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## Chapter 7. Dialog Tag Language (DTL) Tags

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### Tag Summary

The following table is an alphabetic summary of the supported Dialog Tag Language (DTL) tags for z/OS V1R7.0 ISPF. The table shows the tag, tells whether an end tag is required (Yes) or optional (No), and lists the tag's attributes (if any) and the tag content (if any) in italics. The table also lists which tags you can nest within the tag, as well as which tags you can code the tag within.

Table 1. Tag summary

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Nested tags                            | Used within   |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------|
| AB     | Yes     | MNEMGEN= <u>YES</u>   NO<br>ABSEPSTR=ab-separator-string<br>ABSEPCHAR=ab-separator-character                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | ABC                                    | PANEL         |
| ABC    | No      | HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname<br>PDCVAR=cdc-variable-name<br><i>choice-description-text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | COMMENT<br>M<br>PDC<br>PDSEP<br>SOURCE | AB            |
| ACTION | No      | RUN=internal-command-name   %varname<br>PARM=parameters   %varname<br>APPLCMD= <u>NO</u>   YES<br>TYPE= <u>CMD</u>   PGM   PANEL   WSCMD<br>  WSCMDV   EXIT<br>NEWAPPL   NEWAPPL=application-id<br>NEWWINDOW<br>PASSLIB<br>NEWPOOL<br>SUSPEND<br>SCRNAME=screen-name<br>NOCHECK<br>ADDPPOP<br>OPT=option   %varname<br>MODE=LINE   FSCR<br>LANG=APL   CREX<br>BARRIER<br>NEST<br>WSDIR=ws-directory<br>WSINVOKE= <u>MODELESS</u>   MODAL<br>WSSIZE= <u>MAX</u>   MIN<br>WSVIEW= <u>VIS</u>   INVIS<br>SETVAR=variable-name<br>VALUE= <u>1</u>   string   %varname<br>TOGVAR=variable-name<br>VALUE1= <u>0</u>   string   %varname<br>VALUE2= <u>1</u>   string   %varname |                                        | CHOICE<br>PDC |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag       | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Nested tags                                                                                                                         | Used within   |
|-----------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------|
| AREA      | Yes     | MARGINW= <u>1</u>   n<br>MARGIND= <u>0</u><br>INDENT=n<br>DEPTH=n   *<br>EXTEND=OFF   ON   FORCE<br>DIV= <u>NONE</u>   BLANK   SOLID   DASH   TEXT<br>DIVWIDTH= <u>MAX</u>   MIN<br>FORMAT=START   CENTER   END<br>TEXT=divider-text<br><br>WIDTH=n<br>DIR= <u>VERT</u>   HORIZ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | COMMENT<br>DA<br>DIVIDER<br>DTACOL<br>DTAFLD<br>GA<br>GENERATE<br>GRPHDR<br>INFO<br>LSTFLD<br>PNLINST<br>REGION<br>SELFLD<br>SOURCE | HELP<br>PANEL |
| ASSIGNI   | No      | VALUE=test-value<br>RESULT=assigned-value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                     | ASSIGNL       |
| ASSIGNL   | Yes     | DESTVAR=destination-variable-name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ASSIGNI                                                                                                                             | DTAFLD        |
| ATTENTION | Yes     | <i>text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DL<br>FIG<br>HP<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP                                  | LI<br>LP<br>P |
| ATTR      | No      | ATTRCHAR=code<br>TYPE=DATAIN   DATAOUT   CHAR<br>INTENS= <u>HIGH</u>   LOW   NON   %varname<br>CAPS=OFF   ON   IN   OUT   %varname<br>JUST=ASIS   LEFT   RIGHT   %varname<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>SKIP=OFF   ON   %varname<br>GE= <u>OFF</u>   ON   %varname<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>HILITE=USCORE   BLINK   REVERSE   %varname<br>NUMERIC= <u>OFF</u>   ON   %varname<br>FORMAT=EBCDIC   DBCS   MIX   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>PAS=OFF   ON   %varname<br>CKBOX= <u>OFF</u>   ON   %varname<br>CUADYN=CEF   EE   LEF   NEF   VOI   LID<br>  LI   CH   CT   DT   ET   FP   NT   PIN<br>  PT   SAC   SI   SUC   WASL   WT<br>  %varname<br>CSRGRP= <u>NO</u>   YES   n<br>ATTN= <u>OFF</u>   ON   %varname |                                                                                                                                     | DA            |



Table 1. Tag summary (continued)

| Tag     | End tag | Attributes                                                                                                                    | Nested tags                                                                                        | Used within    |
|---------|---------|-------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------|
| BOTINST | No      | COMPACT<br><i>instruction-text</i>                                                                                            | HP<br>PS<br>RP                                                                                     | PANEL          |
| CAUTION | Yes     | <i>text</i>                                                                                                                   | DL<br>FIG<br>HP<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP | LI<br>LP<br>P  |
| CHDIV   | No      | TYPE= <u>NONE</u>   SOLID   DASH   TEXT<br>GUTTER= <u>1</u>   n<br>FORMAT= <u>START</u>   CENTER   END<br><i>divider-text</i> | HP                                                                                                 | SELF<br>CHOICE |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Nested tags | Used within |
|--------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|
| CHECKI | No      | TYPE=<br>RANGE<br>PARM1=low-bound   %varname<br>PARM2=high-bound   %varname<br>ALPHA<br>CHARS<br>PARM1=EQ<br>PARM2=character-set<br>VALUES<br>PARM1=EQ<br>PARM2=value-list<br>VALUESX<br>PARM1=NE<br>PARM2=value-list<br>BIT<br>NAME<br>NAMEF<br>PICT<br>PARM1=EQ<br>PARM2=pictstring<br>PICTCN<br>PARM1=mask-character<br>PARM2=field-mask<br>PARM3=string<br>NUM<br>DBCS<br>LISTV<br>PARM1=EQ<br>PARM2=%varlist<br>LISTVX<br>PARM1=NE<br>PARM2=%varlist<br>ALPHAB<br>LEN<br>PARM1=operator   %varname<br>PARM2=length   %varname<br>EBCDIC<br>ENUM<br>DSNAME<br>DSNAMEF<br>DSNAMEFM<br>DSNAMEPQ<br>DSNAMEQ<br>MIX<br>HEX<br>FILEID<br>INCLUDE<br>PARM1=IMBLK<br>PARM2=ALPHA   ALPHAB   NUM<br>PARM3=ALPHA   ALPHAB   NUM<br>IDATE<br>STDDATE<br>JDATE<br>JSTD<br>ITIME<br>STDTIME<br>IPADDR4 |             | CHECKL      |

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Nested tags                                             | Used within |
|--------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------|
| CHECKL | Yes     | MSG=message-identifier                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | CHECKI                                                  | VARCLASS    |
| CHOFLD | No      | DATAVAR=field-data<br>VARCLASS=variable-class-name<br>HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname<br>USAGE= <u>BOTH</u>   IN   OUT<br>REQUIRED= <u>NO</u>   YES<br>MSG=message-identifier<br>AUTOTAB= <u>NO</u>   YES<br>ENTWIDTH=n<br>FLDSPACE=n<br>ALIGN= <u>START</u>   CENTER   END<br>DISPLAY= <u>YES</u>   NO<br>NOENDATTR<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>PSVAR=point-and-shoot-variable   %varname<br>PSVAL=point-and-shoot-value   %varname<br>PAS=%varname<br>EXPAND<br>ATTRCHANGE= <u>NO</u>   YES   NEW<br>INIT=initial-value<br>IMAPNAME=image-name   %varname<br>IMAPNAMEP=image-namep   %varname<br>PLACE= <u>ABOVE</u>   BELOW   LEFT   RIGHT<br>  %varname<br>ATTRCHAR=code<br>CAPS= <u>OFF</u>   ON<br><i>choice-description-text</i> | ACTION<br>COMMENT<br>HP<br>PS<br>RP<br>SOURCE           | CHOICE      |
| CHOICE | No      | NAME=choice-name<br>HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname<br>CHECKVAR=variable-name<br>MATCH= <u>1</u>   string<br>NOMATCH= <u>0</u>   string<br>AUTOTAB= <u>YES</u>   NO<br>SELCHAR='char(s),n'<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>HIDE<br>HIDEX<br>UNAVAIL=variable-name<br>UNAVAILMAT= <u>1</u>   string<br>TRUNC=n<br>AUTOSEL= <u>YES</u>   NO<br><i>choice-description-text</i>                                                                                                                                                                                                                                                                                                                                                                 | ACTION<br>CHOFLD<br>COMMENT<br>HP<br>PS<br>RP<br>SOURCE | SELFELD     |
| CMD    | No      | NAME=internal-command-name<br>ALTDESCR=command-description<br><i>external-command-name</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | CMDACT<br>T                                             | CMDTBL      |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag     | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Nested tags | Used within |
|---------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|
| CMDACT  | No      | ACTION=<br>'SELECT=select-parameters'<br>'ALIAS=internal-command-name parameters'<br>PASSTHRU<br>SETVERB<br>BACKWARD<br>CANCEL<br>EXIT<br>EXHELP<br>FKA<br>FORWARD<br>HELP<br>PANELID<br>RETRIEVE<br>%varname<br>application-command<br>ASIS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |             | CMD         |
| CMDAREA | No      | HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname<br>PMTLOC= <u>BEFORE</u><br>NOINIT<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>NAME=cmdarea-variable-name<br>ENTWIDTH=n<br>PMTTEXT= <u>YES</u>   NO<br>CMDLOC= <u>DEFAULT</u>   ASIS<br>CMDLEN= <u>DEFAULT</u>   MAX<br>AUTOTAB= <u>NO</u>   YES<br>SCROLLVAR=scroll-variable<br>SCRVHELP= <u>NO</u>   YES   scroll-help-panel-name<br>  *scroll-help-message-id   %varname<br>  *%varname<br>SCROLLTAB= <u>NO</u>   YES<br>SCRCAPS= <u>OFF</u>   ON<br>PSBUTTON=cmd-pb-text<br>PSVAR=point-and-shoot-variable   %varname<br>PSVAL=point-and-shoot-value   %varname<br>IMAPNAME=image-name   %varname<br>IMAPNAMEP=image-namep   %varname<br>PLACE= <u>ABOVE</u>   BELOW   LEFT<br>  RIGHT   %varname<br>CAPS= <u>OFF</u>   ON<br>NOJUMP= <u>OFF</u>   ON<br>VARDCL= <u>YES</u>   NO<br>command-prompt-text | HP          | PANEL       |
| CMDTBL  | Yes     | APPLID=application-identifier<br>SORT= <u>NO</u>   YES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | CMD         |             |

Table 1. Tag summary (continued)

| Tag     | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Nested tags | Used within                                                                                                                          |
|---------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------|
| COMMENT | No      | TYPE=END   CCSID   PANEL   ATTR   ABCINIT  <br>ABCPROC   INIT   REINIT   PROC   HELP  <br>PNTS   LIST<br><i>comment-text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             | ABC<br>AREA<br>CHOICE<br>DA<br>DTACOL<br>DTAFLD<br>HELP<br>LSTCOL<br>LSTFLD<br>LSTGRP<br>MSGMBR<br>PANEL<br>PDC<br>REGION<br>SELFELD |
| COMPOPT | No      | REPLACE   NOREPLACE<br>SCREEN   DISK<br>NODBCS   DBCS<br>NOKANA   KANA<br>KEYLAPPL=xxxx<br>NOPANEL   PANEL<br>NOMSGSUPP   MSGSUPP<br>NOCUASUPP   CUASUPP<br>PREP   NOPREP<br>CUAATTR   NOCUAATTR<br>NOLSTVIEW   LSTVIEW<br>STATS   NOSTATS<br>NOSCRIPT   SCRIPT<br>NOLISTING   LISTING<br>NOFORMAT   FORMAT<br>NOMSGEXPAND   MSGEXPAND<br>LOGREPL   NOLOGREPL<br>LISTREPL   NOLISTREPL<br>ACTBAR   NOACTBAR<br>GUI   NOGUI<br>VERSION   NOVERSION<br>NOMERGESAREA   MERGESAREA<br>NODISPLAY   DISPLAY<br>NODISPLAYW   DISPLAYW<br>DSNCHK   NODSNCHK<br>GRAPHIC   NOGRAPHIC<br>ZVARS   NOZVARS<br>NODBALIGN   DBALIGN<br>NOMCOMMENT   MCOMMENT<br>NOVPADC   PADC<br>ADD<br>RESET<br><i>national-language</i> | None        |                                                                                                                                      |
| COPYR   | No      | <i>copyright-text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |             |                                                                                                                                      |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag     | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Nested tags                                                                                        | Used within                       |
|---------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-----------------------------------|
| DA      | Yes     | NAME=varname<br>EXTEND= <u>OFF</u>   ON   FORCE<br>LVLINE=variable-name<br>SCROLL= <u>OFF</u>   ON   CMDLINE<br>USERMOD=usermod-code   %varname<br>DATAMOD=datamod-code   %varname<br>DEPTH=n   *<br>WIDTH=n<br>SHADOW=shadow-name<br>DIV= <u>NONE</u>   BLANK   SOLID   DASH   TEXT<br>FORMAT= <u>START</u>   CENTER   END<br>TEXT=divider-text<br>SCROLLVAR=scroll-variable<br>SCRVHELP= <u>NO</u>   YES   scroll-help-panel-name<br> *scroll-help-message-id   %varname   *%varname<br>SCROLLTAB= <u>NO</u>   YES<br>SCRCAPS= <u>OFF</u>   ON<br>INITATTR= <u>NT</u>   CT   ET   WT   WASL<br>HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname | ATTR<br>COMMENT<br>SOURCE                                                                          | AREA<br>PANEL<br>REGION           |
| DD      | No      | <i>definition-description</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | DL<br>FIG<br>HP<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP | DL                                |
| DDHD    | No      | <i>definition-description-header</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | HP<br>PS<br>RP                                                                                     | DL                                |
| DIVIDER | No      | TYPE= <u>NONE</u>   SOLID   DASH   TEXT<br>GAP= <u>YES</u>   NO<br>GUTTER=1   n<br>NOENDATTR<br>FORMAT= <u>START</u>   CENTER   END<br><i>divider-text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | HP                                                                                                 | AREA<br>DTACOL<br>PANEL<br>REGION |

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Nested tags                                                | Used within                                                                                  |
|--------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| DL     | Yes     | TSIZE= <u>10</u>   'S1, S2,... Sn'<br>BREAK= <u>NONE</u>   FIT   ALL<br>COMPACT<br>NOSKIP<br>INDENT= <u>n</u><br>FORMAT=START   CENTER   END<br>DIVEND= <u>NO</u>   YES<br>SPLIT= <u>NO</u>   YES                                                                                                                                                                                                                                                                                                                                                                                      | DD<br>DDHD<br>DLDIV<br>DT<br>DTHD<br>DTDIV<br>DTHDIV       | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>NT<br>PD<br>WARNING<br>XMP |
| DLDIV  | No      | TYPE= <u>NONE</u>   SOLID   DASH   TEXT<br>GAP= <u>YES</u>   NO<br>GUTTER= <u>1</u>   n<br>FORMAT=START   CENTER   END<br><i>divider-text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                          | HP                                                         | DL                                                                                           |
| DT     | No      | FORMAT=START   CENTER   END<br>NOSKIP<br>SPLIT= <u>NO</u>   YES<br><i>definition-term</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | DTSEG<br>HP<br>PS<br>RP                                    | DL                                                                                           |
| DTACOL | Yes     | PMTWIDTH= <u>n</u>   *   **<br>ENTWIDTH= <u>n</u><br>DESWIDTH= <u>n</u>   *<br>SELWIDTH= <u>n</u>   *<br>FLDSPACE= <u>n</u><br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>PMTFMT= <u>CUA</u>   ISPF   NONE   END<br>AUTOTAB= <u>NO</u>   YES<br>ATTRCHANGE= <u>NO</u>   YES   NEW<br>PMTLOC= <u>BEFORE</u>   ABOVE<br>DBALIGN= <u>YES</u>   NO   PROMPT   FIELD   FORCE<br>VARCLASS=variable-class-name<br>REQUIRED= <u>NO</u>   YES<br>CAPS= <u>OFF</u>   ON<br>VARDCL= <u>YES</u>   NO | COMMENT<br>DIVIDER<br>DTAFLD<br>GRPHDR<br>SELFLD<br>SOURCE | AREA<br>PANEL<br>REGION                                                                      |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag     | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Nested tags                                                         | Used within                       |
|---------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|-----------------------------------|
| DTAFLD  | No      | NAME=field-name<br>DATAVAR=field-data<br>VARCLASS=variable-class-name<br>HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname<br>USAGE=BOTH   IN   OUT<br>REQUIRED= <u>NO</u>   YES<br>MSG=message-identifier<br>AUTOTAB= <u>NO</u>   YES<br>ENTWIDTH=n<br>PMTWIDTH=n   *   **<br>DESWIDTH=n   *<br>FLDSPACE=n<br>ALIGN= <u>START</u>   CENTER   END<br>PMTLOC= <u>BEFORE</u>   ABOVE<br>DISPLAY= <u>YES</u>   NO<br>NOENDATTR<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>PMTFMT= <u>CUA</u>   ISPF   NONE   END<br>PSVAR=point-and-shoot-variable   %varname<br>PSVAL=point-and-shoot-value   %varname<br>PAS=%varname<br>CSRGRP= <u>NO</u>   YES   n<br>EXPAND<br>FLDWIDTH=n<br>ATTRCHANGE= <u>NO</u>   YES   NEW<br>INIT=initial-value<br>DEPTH=n   %varname<br>IMAPNAME=image-name   %varname<br>IMAPNAMEP=image-namep   %varname<br>PLACE= <u>ABOVE</u>   BELOW   LEFT  <br>RIGHT   %varname<br>DBALIGN= <u>YES</u>   NO   PROMPT   FIELD   FORCE<br>PMTSKIP= <u>NO</u>   YES<br>DESSKIP= <u>NO</u>   YES<br>FLDTYPE= <u>CUA</u>   ISPF<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>INTENS= <u>HIGH</u>   LOW   NON   %varname<br>HILITE= <u>SCORE</u>   BLINK   REVERSE   %varname<br>ATTRCHAR=code<br>CAPS= <u>OFF</u>   ON<br>NOJUMP= <u>OFF</u>   ON<br>AUTOTYPE= <u>PROJECT</u>   GROUP1   GROUP2  <br>GROUP3   GROUP4   TYPE  <br>MEMBER   DSN<br>AUTOVOL=volser-name<br>AUTODMEM= <u>YES</u>   NO<br>VARDCL= <u>YES</u>   NO<br>prompt-text | ASSIGNL<br>COMMENT<br>DTAFLDD<br>HP<br>PS<br>RP<br>SOURCE<br>SCRFLD | AREA<br>DTACOL<br>PANEL<br>REGION |
| DTAFLDD | No      | description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | HP<br>PS<br>RP                                                      | DTAFLD                            |
| DTDIV   | No      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                     | DL                                |



Table 1. Tag summary (continued)

| Tag      | End tag | Attributes                                                                                                                                                                                                                                                               | Nested tags                                                                                  | Used within                                                           |
|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| DTHD     | No      | <i>definition-term-header</i>                                                                                                                                                                                                                                            | HP<br>PS<br>RP                                                                               | DL                                                                    |
| DTHDIV   | No      |                                                                                                                                                                                                                                                                          |                                                                                              | DL                                                                    |
| DTSEG    | No      |                                                                                                                                                                                                                                                                          |                                                                                              | DT                                                                    |
| FIG      | Yes     | FRAME= <u>RULE</u>   NONE<br>WIDTH= <u>PAGE</u>   COL<br>NOSKIP<br><i>figure-content</i>                                                                                                                                                                                 | DL<br>FIGCAP<br>HP<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP | ATTENTION<br>CAUTION<br>DD<br>INFO<br>LI<br>LP<br>NT<br>PD<br>WARNING |
| FIGCAP   | No      | <i>figure-caption-text</i>                                                                                                                                                                                                                                               | HP<br>PS<br>RP                                                                               | FIG                                                                   |
| GA       | No      | NAME=graphic-area-name<br>EXTEND= <u>OFF</u>   ON   FORCE<br>DEPTH= <u>n</u>   *<br>WIDTH= <u>n</u><br>DIV= <u>NONE</u>   BLANK   SOLID   DASH   TEXT<br>FORMAT= <u>START</u>   CENTER   END<br>TEXT=divider-text<br>LVLIN=variable-name                                 |                                                                                              | AREA<br>PANEL<br>REGION                                               |
| GENERATE | Yes     | SUBSTITUTE= <u>NO</u>   YES                                                                                                                                                                                                                                              | ATTR<br>COMMENT<br>SOURCE                                                                    | AREA<br>HELP<br>PANEL<br>REGION                                       |
| GRPHDR   | No      | FORMAT= <u>START</u>   CENTER   END   NONE<br>WIDTH= <u>n</u><br>FMTWIDTH= <u>n</u><br>INDENT= <u>n</u><br>HEADLINE= <u>NO</u>   YES<br>DIV= <u>NONE</u>   BLANK   SOLID   DASH<br>DIVLOC= <u>AFTER</u>   BEFORE   BOTH<br>COMPACT<br>STRIP<br><i>group-heading-text</i> | HP<br>PS<br>RP                                                                               | AREA<br>DTACOL<br>PANEL<br>REGION                                     |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag      | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Nested tags                                                                          | Used within |
|----------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------|
| HELP     | Yes     | NAME=help-panel-name<br>HELP=hhhelp-panel-name   %varname<br>HELPDEF=helpdef-id<br>WIDTH=50   n   FIT<br>DEPTH=10   n   FIT<br>CCSID=n<br>TUTOR<br>KEYLIST=key-list-name<br>KEYLTYPE=PRIVATE   SHARED<br>APPLID=application-id<br>EXPAND=xy<br>WINTITLE=window-title<br>APPTITLE=application-title<br>MERGESAREA=NO   YES<br>MSGLINE=YES   NO<br>IMAPNAME=image-name   %varname<br>IMAPROW=n   %varname<br>IMAPCOL=n   %varname<br>ZUP=zup-id<br>ZCONT=zcont-id<br><i>help-panel-title</i> | AREA<br>COMMENT<br>DIVIDER<br>GENERATE<br>HP<br>INFO<br>REGION<br>SOURCE<br>TEXTLINE |             |
| HELPDEF  | No      | ID=helpdef-id<br>HELP=hhhelp-panel-name   %varname<br>WIDTH=n   FIT<br>DEPTH=n   FIT<br>CCSID=n<br>KEYLIST=key-list-name<br>KEYLTYPE=PRIVATE   SHARED<br>APPLID=application-id<br>EXPAND=xy<br>WINTITLE=window-title<br>APPTITLE=application-title<br>MERGESAREA=NO   YES<br>IMAPNAME=image-name   %varname<br>IMAPROW=n   %varname<br>IMAPCOL=n   %varname                                                                                                                                |                                                                                      |             |
| H1       | No      | COMPACT<br><i>heading-text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                      | INFO        |
| H2/H3/H4 | No      | COMPACT<br><i>heading-text</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                             | HP<br>PS<br>RP                                                                       | INFO        |

Table 1. Tag summary (continued)

| Tag  | End tag | Attributes                                                                                                                                                                                                                                                                                                         | Nested tags                                                                                                 | Used within                                                                                                                                                                                                                                                                                                       |
|------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HP   | Yes     | TYPE= <u>ET</u>   CH   CT   FP   LEF   LI<br>  NT   PT   SAC   TEXT   WASL   WT<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>INTENS= <u>HIGH</u>   LOW   NON   %varname<br>HILITE= <u>USCORE</u>   BLINK   REVERSE   %varname<br>INTENSE=varname<br><i>phrase-to-be-highlighted</i> |                                                                                                             | ATTENTION<br>BOTINST<br>CAUTION<br>CHDIV<br>CHOICE<br>CMDAREA<br>DD<br>DDHD<br>DIVIDER<br>DT<br>DTAFLD<br>DTAFLDD<br>DTHD<br>FIG<br>FIGCAP<br>GRPHDR<br>H2<br>H3<br>H4<br>HELP<br>LI<br>LINES<br>LP<br>LSTCOL<br>LSTGRP<br>NOTE<br>NT<br>P<br>PANEL<br>PD<br>PNLINST<br>PT<br>SELFLD<br>TOPINST<br>WARNING<br>XMP |
| INFO | Yes     | WIDTH=format-width   *<br>INDENT=n                                                                                                                                                                                                                                                                                 | DIVIDER<br>DL<br>FIG<br>Hn<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>SL<br>SOURCE<br>UL<br>XMP | AREA<br>HELP<br>PANEL<br>REGION                                                                                                                                                                                                                                                                                   |
| KEYI | No      | KEY=virtual-key<br>CMD=internal-command-name<br>CASE= <u>UPPER</u>   MIXED<br>FKA= <u>NO</u>   YES   LONG   SHORT<br>PARM=parm-string<br><i>FKA-text</i>                                                                                                                                                           |                                                                                                             | KEYL                                                                                                                                                                                                                                                                                                              |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag   | End tag | Attributes                                                                                    | Nested tags                                                                                                                           | Used within                                                           |
|-------|---------|-----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|
| KEYL  | Yes     | NAME=key-list-name<br>HELP=help-panel-name<br>ACTION=UPDATE   DELETE<br>APPLID=application-id | KEYI                                                                                                                                  |                                                                       |
| LI    | No      | SPACE=NO   YES<br>NOSKIP<br><i>item-text</i>                                                  | ATTENTION<br>CAUTION<br>DL<br>FIG<br>HP<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>WARNING<br>XMP | NOTEL<br>OL<br>SL<br>UL                                               |
| LINES | Yes     | NOSKIP<br><i>text</i>                                                                         | DL<br>HP<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP                                                    | ATTENTION<br>CAUTION<br>DD<br>INFO<br>LI<br>LP<br>NT<br>PD<br>WARNING |
| LIT   | Yes     | <i>literal-display-value</i>                                                                  |                                                                                                                                       | XLATI                                                                 |
| LP    | No      | NOSKIP<br><i>implied-paragraph</i>                                                            | ATTENTION<br>CAUTION<br>DL<br>FIG<br>HP<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>WARNING<br>XMP | NOTEL<br>OL<br>SL<br>UL                                               |

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Nested tags                                                       | Used within             |
|--------|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-------------------------|
| LSTCOL | No      | DATAVAR=column-data<br>VARCLASS=variable-class-name<br>HELP= <u>NO</u>   YES   help-panel-name  <br>* help-message-id   %varname   *%varname<br>USAGE= <u>BOTH</u>   IN   OUT<br>REQUIRED= <u>NO</u>   YES<br>MSG=message-id<br>COLWIDTH=data-width<br>ALIGN= <u>START</u>   CENTER   END<br>AUTOTAB= <u>NO</u>   YES<br>LINE=n<br>CLEAR<br>POSITION=n<br>FORMAT= <u>START</u>   CENTER   END<br>TEXT=descriptive-text<br>TEXTLOC= <u>BEFORE</u>   AFTER<br>TEXTFMT= <u>START</u>   CENTER   END<br>TEXTLEN=n<br>TEXTSKIP= <u>NO</u>   YES<br>NOENDATTR<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>PAS= <u>OFF</u>   ON   %varname<br>CSRGRP= <u>NO</u>   YES   n<br>ATTRCHANGE= <u>NO</u>   YES   NEW<br>COLSPACE=n<br>COLTYPE=CUA   ISPF   EE   VOI   LID<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>INTENS= <u>HIGH</u>   LOW   NON   %varname<br>HILITE=USCORE   BLINK   REVERSE   %varname<br>CAPS=OFF   ON<br>DISPLAY= <u>YES</u>   NO<br>VARDCL= <u>YES</u>   NO<br><i>column-heading</i> | COMMENT<br>HP<br>PS<br>RP<br>SOURCE<br>SCRFLD                     | LSTFLD<br>LSTGRP        |
| LSTFLD | Yes     | RULES= <u>NONE</u>   HORIZ   VERT   BOTH<br>ROWS= <u>NOSCAN</u>   SCAN   %varname<br>DIV= <u>NONE</u>   BLANK   SOLID   DASH   char<br>SCROLLVAR=scoll-variable<br>SCRHELP= <u>NO</u>   YES   scroll-help-panel-name<br> *scroll-help-message-id   %varname   *%varname<br>SCROLLTAB= <u>NO</u>   YES<br>SCRCAPS=OFF   ON<br>ATTRCHANGE= <u>NO</u>   YES   NEW<br>VARDCL= <u>YES</u>   NO                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | COMMENT<br>LSTCOL<br>LSTGRP<br>LSTVAR<br>SOURCE                   | AREA<br>PANEL<br>REGION |
| LSTGRP | Yes     | HEADLINE= <u>NO</u>   YES   DASH<br>ALIGN= <u>CENTER</u>   START   END<br><i>column-group-heading</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | COMMENT<br>HP<br>LSTCOL<br>LSTGRP<br>LSTVAR<br>PS<br>RP<br>SOURCE | LSTFLD<br>LSTGRP        |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                     | Nested tags                         | Used within                                                                            |
|--------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------|
| LSTVAR | No      | DATAVAR=variable-model-name<br>LINE=n<br><i>column-heading</i>                                                                                                                                                                                                                                                                                                                 | COMMENT<br>HP<br>PS<br>RP<br>SOURCE | LSTFLD<br>LSTGRP                                                                       |
| M      | No      | <i>mnemonic-character</i>                                                                                                                                                                                                                                                                                                                                                      |                                     | ABC<br>PDC                                                                             |
| MSG    | No      | SUFFIX=message-suffix-number<br>HELP=help-panel-name   %varname   *<br>MSGTYPE=INFO   WARNING   ACTION<br>  CRITICAL   %varname<br>LOCATION=AREA   MODAL   MODAL(L)  <br>MODELESS   MODELESS (L)   %varname<br>DISP=KANA   NOKANA<br>ALARM=NO   YES   %varname<br>ABBREV=NONE   KEYWORD   VALUE   BOTH<br>FORMAT=FLOW   ASIS<br>SMSG=short-message-text<br><i>message-text</i> | VARSUB                              | MSGMBR                                                                                 |
| MSGMBR | Yes     | NAME=message-member-name<br>CCSID=n<br>WIDTH=76   68                                                                                                                                                                                                                                                                                                                           | COMMENT<br>MSG                      |                                                                                        |
| NOTE   | No      | NOSKIP<br>INDENT=n<br>TYPE=ET   CH   CT   FP   LEF   LI<br>  NT   PT   SAC   TEXT   WASL   WT<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>INTENS=HIGH   LOW   NON   %varname<br>HILITE=USCORE   BLINK   REVERSE   %varname<br>TEXT=alternate-note-heading<br><i>note-text</i>                                                                  | HP<br>PS<br>RP                      | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>PD<br>WARNING<br>XMP |
| NOTEL  | Yes     | COMPACT<br>NOSKIP<br>SPACE=NO   YES<br>INDENT=n<br>TYPE=ET   CH   CT   FP   LEF   LI<br>  NT   PT   SAC   TEXT   WASL   WT<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>INTENS=HIGH   LOW   NON   %varname<br>HILITE=USCORE   BLINK   REVERSE   %varname<br>TEXT=alternate-note-heading                                                         | LI<br>LP                            | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>PD<br>WARNING<br>XMP |

Table 1. Tag summary (continued)

| Tag | End tag | Attributes                                                                                                                                                                                                                                                                                                                                    | Nested tags                                                                 | Used within                                                                                  |
|-----|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| NT  | Yes     | NOSKIP<br>INDENT= <u>n</u><br>TYPE= <u>ET</u>   CH   CT   FP   LEF   LI<br>  NT   PT   SAC   TEXT   WASL   WT<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>INTENS= <u>HIGH</u>   LOW   NON   %varname<br>HILITE= <u>USCORE</u>   BLINK   REVERSE   %varname<br>TEXT=alternate-note-heading<br><i>note-text</i> | DL<br>FIG<br>HP<br>LINES<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>PD<br>WARNING<br>XMP       |
| OL  | Yes     | COMPACT<br>NOSKIP<br>SPACE= <u>NO</u>   YES<br>INDENT= <u>n</u><br>TEXT=OL-heading-text                                                                                                                                                                                                                                                       | LI<br>LP                                                                    | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>NT<br>PD<br>WARNING<br>XMP |
| P   | No      | COMPACT<br>INTENSE= <u>varname</u><br>INDENT= <u>n</u><br>OFFSET= <u>n</u><br>SPACE= <u>NO</u>   YES<br><i>paragraph-text</i>                                                                                                                                                                                                                 | ATTENTION<br>CAUTION<br>HP<br>PS<br>RP<br>WARNING                           | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>NT<br>PD<br>WARNING<br>XMP |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Nested tags | Used within |
|--------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------|
| PANDEF | No      | ID=pandef-id<br>HELP=help-panel-name   %varname<br>DEPTH=n   FIT<br>WIDTH=n   FIT   %varname<br>KEYLIST=key-list-name<br>KEYLTYPE=PRIVATE   SHARED<br>APPLID=application-id<br>CCSID=n<br>WINDOW=YES   NO<br>WINTITLE=window-title<br>APPTITLE=application-title<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE=NONE   L   R   O   U   BOX  <br>%varname<br>EXPAND=xy<br>MERGESAREA=NO   YES<br>ENTKEYTEXT=enter-key-text<br>IMAPNAME=image-name   %varname<br>IMAPROW=n   %varname<br>IMAPCOL=n   %varname<br>TMARGIN=n<br>BMARGIN=n |             |             |



Table 1. Tag summary (continued)

| Tag   | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Nested tags                                                                                                                                                                                          | Used within |
|-------|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| PANEL | Yes     | NAME=panel-name<br>HELP=help-panel-name   %varname<br>PANDEF=pandef-id<br>DEPTH=22   n   FIT<br>WIDTH=76   n   FIT   %varname<br>KEYLIST=key-list-name<br>KEYLTYPE=PRIVATE   SHARED<br>APPLID=application-id<br>CURSOR=cursor-field<br>CSRINDEX=index-value<br>CSRPOS=position-value<br>CCSID=n<br>MENU<br>PRIME<br>TUTOR<br>WINDOW=YES   NO<br>WINTITLE=window-title<br>APPTITLE=application-title<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE=NONE   L   R   O   U   BOX  <br>%varname<br>EXPAND=xy<br>MSGLINE=YES   NO<br>TITLINE=YES   NO<br>CMDLINE=YES   NO<br>ATTRUSE=NO   YES   ALL<br>ENDATTR=DEFAULT   TEXT<br>TYPE=BOTH   GUI   NOGUI<br>MSG=short-msg-fieldname<br>LMSG=long-msg-fieldname<br>ASIS<br>ACTBAR<br>MERGESAREA=NO   YES<br>PANELSTMT=YES   NO<br>ENTKEYTEXT=enter-key-text<br>IMAPNAME=image-name   %varname<br>IMAPROW=n   %varname<br>IMAPCOL=n   %varname<br>TMARGIN=n<br>BMARGIN=n<br>ERRORCHECK=NO   YES<br>ZUP=zup-id<br>ZCONT=zcont-id<br>AUTONRET=NO   YES<br>AUTOTCMD=NO   YES   PROC<br>panel-title-text | AB<br>AREA<br>BOTINST<br>CMDAREA<br>COMMENT<br>DA<br>DIVIDER<br>DTACOL<br>DTAFLD<br>GA<br>GENERATE<br>GRPHDR<br>HP<br>INFO<br>LSTFLD<br>PNLINST<br>REGION<br>SELFLD<br>SOURCE<br>TEXTLINE<br>TOPINST |             |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag     | End tag | Attributes                                                                                                                                                                                                                                                          | Nested tags                                                                                        | Used within                                                                                  |
|---------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| PARML   | Yes     | TSIZE= <u>10</u>   'S1 S2... Sn'<br>BREAK= <u>ALL</u>   FIT   NONE<br>COMPACT<br>SKIP<br>INDENT= <u>n</u><br>FORMAT=START   CENTER   END<br>DIVEND= <u>NO</u>   YES<br>SPLIT= <u>NO</u>   YES                                                                       | PLDIV<br>PT<br>PTDIV<br>PD                                                                         | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>NT<br>PD<br>WARNING<br>XMP |
| PD      | No      | <i>parameter-description</i>                                                                                                                                                                                                                                        | DL<br>FIG<br>HP<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP | PARML                                                                                        |
| PDC     | No      | HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname<br>UNAVAIL=unavail-variable-name<br>CHECKVAR=check-variable-name<br>MATCH= <u>1</u>   match-string<br>ACC1=key1<br>ACC2=key2<br>ACC3=key3<br><i>pull-down-description-text</i> | ACTION<br>COMMENT<br>M<br>SOURCE                                                                   | ABC                                                                                          |
| PDSEP   | No      |                                                                                                                                                                                                                                                                     |                                                                                                    | PDC                                                                                          |
| PLDIV   | No      | TYPE= <u>NONE</u>   SOLID   DASH   TEXT<br>GAP= <u>YES</u>   NO<br>GUTTER= <u>1</u>   n<br>FORMAT=START   CENTER   END<br><i>divider-text</i>                                                                                                                       | HP                                                                                                 | PARML                                                                                        |
| PNLINST | No      | COMPACT<br><i>instruction-text</i>                                                                                                                                                                                                                                  | HP<br>PS<br>RP                                                                                     | AREA<br>REGION<br>PANEL                                                                      |

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                            | Nested tags                                                                                                                         | Used within                                                                                                                                                                                                                                                                 |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PS     | Yes     | VAR=point-and-shoot-variable-name   %varname<br>VALUE=point-and-shoot-value   %varname   *<br>CSRGRP= <u>NO</u>   YES   n<br>DEPTH=n   %varname<br>IMAPNAME=image-name   %varname<br>IMAPNAMEP=image-namep   %varname<br>PLACE= <u>ABOVE</u>   <u>BELOW</u>   <u>LEFT</u>  <br><u>RIGHT</u>   %varname<br><i>point-and-shoot-text</i> |                                                                                                                                     | ATTENTION<br>BOTINST<br>CAUTION<br>CHOFLD<br>CHOICE<br>DD<br>DDHD<br>DT<br>DTAFLD<br>DTAFLDD<br>DTHD<br>FIG<br>FIGCAP<br>GRPHDR<br>H2<br>H3<br>H4<br>LI<br>LINES<br>LP<br>LSTCOL<br>LSTGRP<br>NOTE<br>NT<br>P<br>PD<br>PNLINST<br>PT<br>SELFLD<br>TOPINST<br>WARNING<br>XMP |
| PT     | No      | FORMAT= <u>START</u>   CENTER   END<br>NOSKIP<br>SPLIT= <u>NO</u>   YES<br><i>parameter-term</i>                                                                                                                                                                                                                                      | HP<br>PS<br>PTSEG<br>RP                                                                                                             | PARML                                                                                                                                                                                                                                                                       |
| PTDIV  | No      |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                     | PARML                                                                                                                                                                                                                                                                       |
| PTSEG  | No      |                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                     | PT                                                                                                                                                                                                                                                                          |
| REGION | Yes     | DIR= <u>VERT</u>   HORIZ<br>INDENT=n<br>WIDTH=n   *<br>DEPTH=n   *<br>EXTEND= <u>OFF</u>   ON   FORCE<br>ALIGN= <u>YES</u>   NO<br>GRPBOX= <u>NO</u>   YES<br>GRPWIDTH=n<br>GRPBXVAR=variable-name<br>GRPBXMAT=1   string<br>LOCATION= <u>DEFAULT</u>   TITLE<br><i>group-box-title</i>                                               | COMMENT<br>DA<br>DIVIDER<br>DTACOL<br>DTAFLD<br>GA<br>GENERATE<br>GRPHDR<br>INFO<br>LSTFLD<br>PNLINST<br>REGION<br>SELFLD<br>SOURCE | AREA<br>HELP<br>PANEL<br>REGION                                                                                                                                                                                                                                             |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                  | Nested tags       | Used within                                                                                                                                                                                                                                                                 |
|--------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RP     | Yes     | HELP= help-panel-name   help-message-id<br>  %varname   *%varname<br><i>reference-phrase</i>                                                                                                                                                                                                                                                                                                |                   | ATTENTION<br>BOTINST<br>CAUTION<br>CHOFLD<br>CHOICE<br>DD<br>DDHD<br>DT<br>DTAFLD<br>DTAFLDD<br>DTHD<br>FIG<br>FIGCAP<br>GRPHDR<br>H2<br>H3<br>H4<br>LI<br>LINES<br>LP<br>LSTCOL<br>LSTGRP<br>NOTE<br>NT<br>P<br>PD<br>PNLINST<br>PT<br>SELFLD<br>TOPINST<br>WARNING<br>XMP |
| SCRFLD | Yes     | DISPLEN= n   %varname<br>INDVAR=ind-var<br>INDVAL='ind-chars'<br>LINDVAR=lind-var<br>LINDVAL='lind-char'<br>RINDVAR=rind-var<br>RINDVAL='rind-char'<br>SINDVAR=sind-var<br>SINDVAL='sind-chars'<br>LCOLIND=lcol-var<br>LCOLDISP= <u>NO</u>   YES<br>RCOLIND=rcol-var<br>RCOLDISP= <u>NO</u>   YES<br>SCALE=scale-var<br>SCROLL= <u>ON</u>   OFF   %varname<br>FLDSPOS= <u>BELOW</u>   ABOVE | COMMENT<br>SOURCE | DTAFLD<br>LSTCOL                                                                                                                                                                                                                                                            |

Table 1. Tag summary (continued)

| Tag    | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Nested tags                                            | Used within                       |
|--------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|-----------------------------------|
| SELFID | Yes     | NAME=field-name<br>HELP= <u>NO</u>   YES   help-panel-name  <br>*help-message-id   %varname   *%varname<br>TYPE= <u>SINGLE</u>   MULTI   MENU   MODEL  <br>TUTOR<br>PMTLOC= <u>ABOVE</u>   BEFORE<br>PMTWIDTH=n   *   **<br>SELWIDTH=n   *<br>ENTWIDTH=2   n   'e1 e2...en'<br>REQUIRED= <u>NO</u>   YES<br>MSG=message-identifier<br>FCHOICE=1   0<br>AUTOTAB= <u>YES</u>   NO<br>DEPTH=n   *<br>EXTEND= <u>OFF</u>   ON   FORCE<br>TRAIL='trail-var-1 trail-var-2 ... trail-var-n'<br>CHOICECOLS=1   n<br>CHOICEDEPTH=n   *<br>CWIDTHS='w1 w2...wn'<br>PAD=NULLS   USER   char   %varname<br>PADC=NULLS   USER   char   %varname<br>OUTLINE= <u>NONE</u>   L   R   O   U   BOX  <br>%varname<br>SELMMSG=selfid-msg-identifier<br>SELMMSGU=selfid-msg-unavailable<br>INIT= <u>YES</u>   NO   init-value<br>VERIFY= <u>YES</u>   NO<br>REFRESH= <u>YES</u>   NO<br>SELFMT= <u>START</u>   END<br>CHKBOX= <u>YES</u>   NO<br>ZGUI= <u>YES</u>   NO<br>CSRGRP= <u>NO</u>   YES   n<br>TSIZE='s1 s2...sn'<br>LISTTYPE=RADIO   LISTBOX   DDLIST   COMBO<br>LISTREF=list-name<br>LISTDEPTH=n<br>DBALIGN= <u>YES</u>   NO   FIELD   FORCE<br>NOSEL=no-selection-value<br>SELDEFAULT=x<br>PMTSKIP= <u>NO</u>   YES<br>FLDTYPE= <u>CUA</u>   ISPF<br>COLOR=WHITE   RED   BLUE   GREEN  <br>PINK   YELLOW   TURQ   %varname<br>INTENS= <u>HIGH</u>   LOW   NON   %varname<br>HILITE= <u>USCORE</u>   BLINK   REVERSE   %varname<br>SELCHECK= <u>NO</u>   YES<br>VARDCL= <u>YES</u>   NO<br>field-prompt-text | CHDIV<br>CHOICE<br>COMMENT<br>HP<br>PS<br>RP<br>SOURCE | AREA<br>DTACOL<br>PANEL<br>REGION |

## Summary of DTL Tags

Table 1. Tag summary (continued)

| Tag      | End tag | Attributes                                                                                | Nested tags       | Used within                                                                                                               |
|----------|---------|-------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------|
| SL       | Yes     | COMPACT<br>NOSKIP<br>SPACE= <u>NO</u>   YES<br>INDENT= <u>n</u><br>TEXT='SL-heading-text' | LI<br>LP          | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>NT<br>PD<br>WARNING<br>XMP                              |
| SOURCE   | Yes     | TYPE= <u>PROC</u>   REINIT   INIT   ABCINIT  <br>ABCPROC<br><i>text</i>                   |                   | ABC<br>AREA<br>CHOICE<br>DA<br>DTACOL<br>DTAFLD<br>HELP<br>LSTCOL<br>LSTFLD<br>LSTGRP<br>PANEL<br>PDC<br>REGION<br>SELFLD |
| T        | No      |                                                                                           |                   | CMD                                                                                                                       |
| TEXTLINE | Yes     |                                                                                           | DTAFLD<br>TEXTSEG | HELP<br>PANEL                                                                                                             |
| TEXTSEG  | No      | EXPAND=AFTER   BEFORE   BOTH<br>WIDTH= <u>n</u><br><i>text</i>                            | HP                | TEXTLINE                                                                                                                  |
| TOPINST  | No      | COMPACT<br><i>instruction-text</i>                                                        | HP<br>PS<br>RP    | PANEL                                                                                                                     |
| UL       | Yes     | COMPACT<br>NOSKIP<br>SPACE= <u>NO</u>   YES<br>INDENT= <u>n</u><br>TEXT=UL-heading-text   | LI<br>LP          | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>NT<br>PD<br>WARNING<br>XMP                              |

Table 1. Tag summary (continued)

| Tag      | End tag | Attributes                                                                                                                                                                                                                                                                                                                                                    | Nested tags                                                                                        | Used within                                                                           |
|----------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| VARCLASS | No      | NAME=variable-class-name<br>TYPE='CHAR maximum length'<br>'DBCS maximum length'<br>'MIXED maximum length'<br>'ANY maximum length'<br>'EBCDIC maximum length'<br>'%varname maximum length'<br>ITIME<br>STDTIME<br>IDATE<br>STDDATE<br>JDATE<br>JSTD<br>'VMASK maximum-length'<br>'NUMERIC total-digits <u>0</u>   fractional-digits'<br>MSG=message-identifier | CHECKL<br>XLATL                                                                                    |                                                                                       |
| VARDCL   | No      | NAME=name<br>VARCLASS=variable-class-name                                                                                                                                                                                                                                                                                                                     |                                                                                                    | VARLIST                                                                               |
| VARLIST  | Yes     |                                                                                                                                                                                                                                                                                                                                                               | VARDCL                                                                                             |                                                                                       |
| VARSUB   | No      | VAR=variable-name                                                                                                                                                                                                                                                                                                                                             |                                                                                                    | MSG                                                                                   |
| WARNING  | Yes     | <i>text</i>                                                                                                                                                                                                                                                                                                                                                   | DL<br>FIG<br>HP<br>LINES<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL<br>XMP | LI<br>LP<br>P                                                                         |
| XLATI    | No      | VALUE=internal-value<br><i>displayed-value</i>                                                                                                                                                                                                                                                                                                                | LIT                                                                                                | XLATL                                                                                 |
| XLATL    | Yes     | FORMAT= <u>NONE</u>   UPPER<br>TRUNC=n   char<br>MSG=message-identifier                                                                                                                                                                                                                                                                                       | XLATI                                                                                              | VARCLASS                                                                              |
| XMP      | Yes     | NOSKIP<br><i>text</i>                                                                                                                                                                                                                                                                                                                                         | DL<br>HP<br>NOTE<br>NOTEL<br>NT<br>OL<br>P<br>PARML<br>PS<br>RP<br>SL<br>UL                        | ATTENTION<br>CAUTION<br>DD<br>FIG<br>INFO<br>LI<br>LINES<br>LP<br>NT<br>PD<br>WARNING |





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## Appendix. Accessibility

Accessibility features help a user who has a physical disability, such as restricted mobility or limited vision, to use software products successfully. The major accessibility features in z/OS enable users to:

- Use assistive technologies such as screen readers and screen magnifier software
- Operate specific or equivalent features using only the keyboard
- Customize display attributes such as color, contrast, and font size

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### Using assistive technologies

Assistive technology products, such as screen readers, function with the user interfaces found in z/OS. Consult the assistive technology documentation for specific information when using such products to access z/OS interfaces.

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### Keyboard navigation of the user interface

Users can access z/OS user interfaces using TSO/E or ISPF. Refer to *z/OS TSO/E Primer*, *z/OS TSO/E User's Guide*, and *z/OS ISPF User's Guide Vol I* for information about accessing TSO/E and ISPF interfaces. These guides describe how to use TSO/E and ISPF, including the use of keyboard shortcuts or function keys (PF keys). Each guide includes the default settings for the PF keys and explains how to modify their functions.

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### z/OS information

z/OS information is accessible using screen readers with the BookServer/Library Server versions of z/OS books in the Internet library at:

[www.ibm.com/servers/eserver/zseries/zos/bkserv/](http://www.ibm.com/servers/eserver/zseries/zos/bkserv/)



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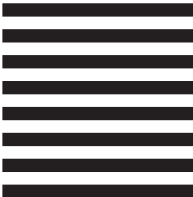
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