z/OS
Version 2 Release 4

ISPF Reference Summary

IBM
Note
Before using this information and the product it supports, read the information in “Notices” on page 285.

This edition applies to Version 2 Release 4 of z/OS (5650-ZOS) and to all subsequent releases and modifications until otherwise indicated in new editions.

Last updated: 2019-06-25

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SCLM services

SCLM services

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

Chapter 1, “ISPF general information,” on page 1 contains general information about ISPF.

Chapter 2, “Dialog development information,” on page 29 contains information relevant to dialog developers, including panel definition statements and built-in functions, message definitions, and file-tailoring skeleton statements.

Chapter 3, “ISPF service syntax with return codes,” on page 45 through Chapter 5, “SCLM services and macros,” on page 187 contain the syntax and return codes for the following items:

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

This document also contains tables of ISPF system variables (Chapter 6, “System variables,” on page 229) and dialog variables (Chapter 7, “Dialog variables,” on page 243) and a summary of the Dialog Tag Language (DTL) tags (Chapter 8, “Dialog Tag Language (DTL) tags,” on page 251).

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 Guide and Reference
- z/OS ISPF Dialog Tag Language Guide and Reference

The "Readers’ Comments - We'd Like to Hear from You" section at the back of this publication has been replaced with a new section “How to send your comments to IBM” on page xxi. The hardcopy mail-in form has been replaced with a page that provides information appropriate for submitting comments to IBM.

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.

How to read the syntax diagrams

The syntactical structure of commands described in this document is shown by means of syntax diagrams.

Figure 1 on page xvi shows a sample syntax diagram that includes the various notations used to indicate such things as whether:

- An item is a keyword or a variable.
- An item is required or optional.
• A choice is available.
• A default applies if you do not specify a value.
• You can repeat an item.

**Figure 1. Sample syntax diagram**

Here are some tips for reading and understanding syntax diagrams:

**Order of reading**
Read the syntax diagrams from left to right, from top to bottom, following the path of the line.

The ►►─── symbol indicates the beginning of a statement.
The ───► symbol indicates that a statement is continued on the next line.
The ►─── symbol indicates that a statement is continued from the previous line.
The ► symbol indicates the end of a statement.

Keywords
Keywords appear in uppercase letters.

Sometimes you only need to type the first few letters of a keyword, the required part of the keyword appears in uppercase letters.

In this example, you could type "KEY", "KEYW", "KEYWO", "KEYWOR" or "KEYWORD". The abbreviated or whole keyword you enter must be spelled exactly as shown.

Variables
Variables appear in lowercase letters. They represent user-supplied names or values.

Required items
Required items appear on the horizontal line (the main path).

Optional items
Optional items appear below the main path.

Choice of items
If you can choose from two or more items, they appear vertically, in a stack.
If you must choose one of the items, one item of the stack appears on the main path.

If choosing one of the items is optional, the entire stack appears below the main path.

If a default value applies when you do not choose any of the items, the default value appears above the main path.

Repeatable items
An arrow returning to the left above the main line indicates an item that can be repeated.
If you need to specify a separator character (such as a comma) between repeatable items, the line with the arrow returning to the left shows the separator character you must specify.

**Fragments**
Where it makes the syntax diagram easier to read, a section or *fragment* of the syntax is sometimes shown separately.
This information explains how z/OS references information in other documents and on the web. When possible, this information uses cross document links that go directly to the topic in reference using shortened versions of the document title. For complete titles and order numbers of the documents for all products that are part of z/OS, see z/OS Information Roadmap.

To find the complete z/OS library, go to IBM Knowledge Center (www.ibm.com/support/knowledgecenter/SSLTBW/welcome).
How to send your comments to IBM

We invite you to submit comments about the z/OS product documentation. Your valuable feedback helps to ensure accurate and high-quality information.

**Important:** If your comment regards a technical question or problem, see instead “If you have a technical problem” on page xxi.

Submit your feedback by using the appropriate method for your type of comment or question:

**Feedback on z/OS function**
If your comment or question is about z/OS itself, submit a request through the IBM RFE Community (www.ibm.com/developerworks/rfe/).

**Feedback on IBM® Knowledge Center function**
If your comment or question is about the IBM Knowledge Center functionality, for example search capabilities or how to arrange the browser view, send a detailed email to IBM Knowledge Center Support at ibmkc@us.ibm.com.

**Feedback on the z/OS product documentation and content**
If your comment is about the information that is provided in the z/OS product documentation library, send a detailed email to mhvrdfs@us.ibm.com. We welcome any feedback that you have, including comments on the clarity, accuracy, or completeness of the information.

To help us better process your submission, include the following information:

- Your name, company/university/institution name, and email address
- The following deliverable title and order number: z/OS ISPF Reference Summary, SC19-3624-40
- The section title of the specific information to which your comment relates
- The text of your comment.

When you send comments to IBM, you grant IBM a nonexclusive authority to use or distribute the comments in any way appropriate without incurring any obligation to you.

IBM or any other organizations use the personal information that you supply to contact you only about the issues that you submit.

**If you have a technical problem**

If you have a technical problem or question, do not use the feedback methods that are provided for sending documentation comments. Instead, take one or more of the following actions:

- Go to the IBM Support Portal (support.ibm.com).
- Contact your IBM service representative.
- Call IBM technical support.
Summary of changes

This information includes terminology, maintenance, and editorial changes. Technical changes or additions to the text and illustrations for the current edition are indicated by a vertical line to the left of the change.

### Summary of changes for z/OS Version 2 Release 4 (V2R4)

The following changes are made for z/OS Version 2 Release 4 (V2R4).

**September 2019**

Maintenance and terminology changes are made for z/OS Version 2 Release 4.

### Summary of changes for z/OS Version 2 Release 3 (V2R3)

The following changes are made for z/OS Version 2 Release 3 (V2R3).

**June 2019**

Maintenance and terminology changes are made for z/OS Version 2 Release 3 in June 2019.

**May 2018**

Maintenance and terminology changes are made for z/OS Version 2 Release 3 in May 2018.

**September 2017**

**Changed information**

- TSO 8-character ID, see the following topic:
  - “LMMSTATS—set and store ISPF statistics” on page 94
What's in the z/OS V2R4 ISPF library?

You can order the ISPF books using the numbers provided below.

<table>
<thead>
<tr>
<th>Title</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>z/OS ISPF Dialog Developer's Guide and Reference</td>
<td>SC19-3619–40</td>
</tr>
<tr>
<td>z/OS ISPF Dialog Tag Language Guide and Reference</td>
<td>SC19-3620–40</td>
</tr>
<tr>
<td>z/OS ISPF Edit and Edit Macros</td>
<td>SC19-3621–40</td>
</tr>
<tr>
<td>z/OS ISPF Messages and Codes</td>
<td>SC19-3622–40</td>
</tr>
<tr>
<td>z/OS ISPF Planning and Customizing</td>
<td>GC19-3623–40</td>
</tr>
<tr>
<td>z/OS ISPF Reference Summary</td>
<td>SC19-3624–40</td>
</tr>
<tr>
<td>z/OS ISPF Software Configuration and Library Manager Guide and Reference</td>
<td>SC19-3625–40</td>
</tr>
<tr>
<td>z/OS ISPF Services Guide</td>
<td>SC19-3626–40</td>
</tr>
</tbody>
</table>
Chapter 1. ISPF general information
Invoking an ISPF application—the ISPSTART command

```
ISPSTART
  PANEL(panel_name)
    OPT(ZSTART)
    CMD(command parm[parm2])
      LANG(APL CREX)
      PGM(program_name)
      PARM(parameters)
      WSCMD(workstation_command)
      MODELESS
      MODAL
      WSDIR(dir)
      MAX
      MIN
      VOS
      VIS
      INVIS
      ZSTART
      option
      BASIC
      cmd_stack_var_name
      GUI
      LU: address:tpname
      IP: address:port
      NOGUIDSP
      TITLE(title)
      FRAME(STD FIX DLG)
      CODEPAGE(codepage)
      CHARSET(character_set)
      BKGRND(DLG STD)
      NEWAPPL(application_id)
      SHRPROF
      EXCLPROF
      SCRNAME(screen_name)
      TEST
      TESTX
      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
      CHINESET
      CHINKISS
      SGERMAN
      UPPERENG
```
ISPF system information

Files used by ISPF

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

<table>
<thead>
<tr>
<th>DDNAME(lib-type)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISPFILE</td>
<td>File tailoring output</td>
</tr>
<tr>
<td>ISPILIB</td>
<td>Image library</td>
</tr>
<tr>
<td>ISPMLIB</td>
<td>Message</td>
</tr>
<tr>
<td>ISPPLIB</td>
<td>Panel</td>
</tr>
<tr>
<td>ISPPROF</td>
<td>User profile</td>
</tr>
<tr>
<td>ISPSSLIB</td>
<td>Skeleton</td>
</tr>
<tr>
<td>ISPTABLE</td>
<td>Table output</td>
</tr>
<tr>
<td>ISPTLIB</td>
<td>Table input</td>
</tr>
<tr>
<td>SYSPROC</td>
<td>REXX/CLIST library</td>
</tr>
<tr>
<td>SYSEXEC</td>
<td>REXX library</td>
</tr>
</tbody>
</table>

**ISPF system commands**

- ACTIONS
- BACKWARD
- BOTTOM
- CANCEL
- CMDE
- COLOR
- CRETRIEV
- CUAATTR
- CURSOR
- DOWN
- DDLIST

- DLIST

- DTEST — parameter_number —

END
ENVIRON
  ENBLDUMP
    ON
    OFF
  TERMTRAC
    ON
    OFF
    ERROR
    DUMP

TERMSTAT
  QUERY

EPDF -- datasetname
  BROWSE
  VIEW
  MACRO -- macroname

  PROFILE -- profilename
  PANEL -- panelname

  FORMAT -- formatname
  RECOVER
  MIXED
    YES
    NO

EXHELP
EXIT

FKA
  ON
  SHORT
  OFF
  PREFIX
  NOPREFIX

FORWARD
HELP
INT
ISPDTLC

ISPF general information 5
RESIZE
RETF
RETP
RETRIEVE
RETURN
RFIND
RIGHT
SAREA

```
\begin{align*}
\text{SCRNAME} & \quad \text{screenname} \\
\quad & \quad \text{PERM} \\
\quad & \quad \text{ON} \\
\quad & \quad \text{OFF}
\end{align*}
```

SETTINGS
SHRPRES

```
\begin{align*}
\text{SPLIT} & \quad \text{NEW}
\end{align*}
```

SPLITV
START

```
\begin{align*}
\text{SWAP} & \quad \text{LIST} \\
\quad & \quad \text{PREV} \\
\quad & \quad \text{NEXT} \\
\quad & \quad \text{screenname} \\
\quad & \quad \text{n}
\end{align*}
```

SWITCH

```
\begin{align*}
\text{SWITCH} & \quad \text{3270} \\
\quad & \quad \text{GUI}
\end{align*}
```

SYSNAME

```
\begin{align*}
\text{SYSNAME} & \quad \text{ON} \\
\quad & \quad \text{OFF}
\end{align*}
```

TOP
TSO
TSOCMD

```
\begin{align*}
\text{TSO\text{GUI}} & \quad \text{ON} \\
\quad & \quad \text{OFF}
\end{align*}
```

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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.

**Blank (no action)**
Causes the table entry to be ignored, and scanning to continue (to search for additional entries having the same verb).

**Variable name**
 Begins with an ampersand. Its content may be one of the listed actions. Allows dynamic specification of a command action.

Dialog test commands

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

CANCEL
END
Syntax

LOCATE string

QUAL

RESUME

Line commands

These line commands have special meaning during testing operations:

Delete one or n lines starting with this line.

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

Repeat this line once or n times.

PDF Browse primary commands

You can enter these commands on the command line while using the Browse function.
You can use this format to enter label definitions on the command line:
.ccc

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 these commands on the command line on member list displays.

CONFIRM

FILTER

field — operator — value

FIND

string — field

NEXT

PREFIX

ALL

FIRST

LAST

PREV

LOCATE

string

LOC

L

MLC

MLS

REFRESH

RESET

RFIND

SAVE

list-id

SELECT

pattern

lcmd

SORT

field1

A

D

field2

A

D

SRCHFOR

string

PDF Component General Information

ISPF general information 13
Line commands
On all member list displays except those for option 3.1 and 3.4, you can enter this 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 these 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 these commands on the command line on option 3.4 data set list displays.

APPEND
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, these commands can be entered on the command line.

- **AUTOLIST**
  - ON
  - OFF

- **AUTONUM**
  - ON
  - OFF

- **AUTOSAVE**
  - ON
  - OFF
  - PROMPT
  - NOPROMPT

- **BOUNDS**
  - BOUND
  - BNDS
  - BND
  - BOU
  - * \( \text{left}_{col} \) \( \text{right}_{col} \)

- **BROWSE**
  - member

- **BUILTIN**
  - cmdname

- **CANCEL**
  - CAN

- **CAPS**
  - ON
  - OFF

- **CHANGE**
  - string1 \( \rightarrow \) string2
  - .ZFIRST \( \rightarrow \) .ZLAST
  - NEXT
    - .ZFIRST
    - FIRST
    - LAST
    - PREV
  - labela \( \rightarrow \) labelb
  - C

- **CHARS**
  - X
  - NX
  - start_col
  - * \( \text{left}_{col} \) \( \rightarrow \) \( \text{right}_{col} \)
  - PREFIX
  - SUFFIX
  - WORD
Notes:

1 If you don't specify the group of lines using labels, you must specify the group by using C or M line commands.

Notes:

1 You can also specify the group of lines using C or M line commands.
Notes:

1 If you don't specify the position using a label, you must specify the position by using an A or B line command.
Notes:

1 STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.
Notes:

1 STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.

Notes:

1 If you don't specify the group of lines using labels, you must specify the group by using C or M line commands.
Line commands
Under Edit or View, you can enter these 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.

Shifts columns left the specified number of positions

Shifts columns right the specified number of positions

Shifts data left the specified number of positions (default 2).

Shifts data right the specified number of positions (default 2).

Identifies the line after which copied, moved, or model lines are to be inserted.

Identifies the line before which copied, moved, or model lines are to be inserted.
Displays the column boundary definition line.

Copies one or more lines from one location to another.

Displays a position identification line.

Deletes one or more lines.

Redisplays one or more lines at the beginning of a block of excluded lines.

Displays characters in hexadecimal format.

 Inserts a blank data entry line.

Redisplays one or more lines at the end of a block of excluded lines.

Converts all uppercase alphabetic characters in one or more lines to lowercase.


PDF Component General Information

Moves one or more lines from one location to another.

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.

O

Rearranges a single column list of items into multiple column, or tabular, format.

RR

Repeats one or more lines.

S

Redisplays one or more lines with the leftmost indentation in a block of excluded lines.

TABS

Displays the tab definition line.

TE

Inserts blank lines to allow power typing for text entry.

TF

Restructures paragraphs following deletions, insertions, splitting, and so forth.

TS

Divides a line so that data can be added.
Converts all lowercase alphabetic characters in one or more lines to uppercase.

Excludes one or more lines from a panel.

**Picture search strings – special characters for string-1:**

<table>
<thead>
<tr>
<th>P ' = '</th>
<th>Any character</th>
</tr>
</thead>
<tbody>
<tr>
<td>P ' ¬ '</td>
<td>Any character that is not a blank</td>
</tr>
<tr>
<td>P ' . '</td>
<td>Any character that cannot be displayed</td>
</tr>
<tr>
<td>P ' # '</td>
<td>Any numeric character, 0-9</td>
</tr>
<tr>
<td>P ' - '</td>
<td>Any nonnumeric character</td>
</tr>
<tr>
<td>P ' @ '</td>
<td>Any alphabetic character, uppercase or lowercase</td>
</tr>
<tr>
<td>P ' &lt; '</td>
<td>Any lowercase alphabetic character</td>
</tr>
<tr>
<td>P ' &gt; '</td>
<td>Any uppercase alphabetic character</td>
</tr>
<tr>
<td>P ' $ '</td>
<td>Any special character, neither alphabetic nor numeric.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>P ' ⌒ '</th>
<th>Any APL-specific or TEXT-specific character</th>
</tr>
</thead>
<tbody>
<tr>
<td>P ' _ '</td>
<td>Any underscored nonblank character.</td>
</tr>
</tbody>
</table>

**Picture search strings – special characters for string-2**

<table>
<thead>
<tr>
<th>P ' = '</th>
<th>Equal to the corresponding character in string-1</th>
</tr>
</thead>
<tbody>
<tr>
<td>P ' &gt; '</td>
<td>Converts the corresponding character in string-1 to uppercase</td>
</tr>
<tr>
<td>P ' &lt; '</td>
<td>Converts corresponding character in string-1 to lowercase.</td>
</tr>
</tbody>
</table>

**Character search string format**

Simple string: cccccc (no embedded blanks or commas)
<table>
<thead>
<tr>
<th>String Type</th>
<th>Representations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Delimited string</td>
<td>'ccccc' or &quot;ccccc&quot;</td>
</tr>
<tr>
<td>Hex string</td>
<td>'X'hhhh' or 'hhhh'X</td>
</tr>
<tr>
<td>Text string</td>
<td>'T'cccc' or 'cccc'T</td>
</tr>
<tr>
<td>Picture string</td>
<td>'P'ssss' or 'ssss'P</td>
</tr>
<tr>
<td>Character string</td>
<td>'C'cccc' or 'cccc'C</td>
</tr>
<tr>
<td>Previous string</td>
<td>* (single asterisk)</td>
</tr>
</tbody>
</table>
Chapter 2. Dialog development information

This topic contains information relevant to dialog developers.

Invoking the ISPF DTL conversion utility

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISPDTLC</td>
<td>(for interactive interface)</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>ISPDTLC ?</td>
<td>(for help information)</td>
</tr>
<tr>
<td>OR</td>
<td></td>
</tr>
<tr>
<td>(command syntax)</td>
<td></td>
</tr>
</tbody>
</table>
Panel definition sections

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

Coded Character Set Identifier Section

```plaintext
)CCSID  NUMBER( ccsid-number)
```

Panel Section

```plaintext
)FIELD  FIELD( field-name
  LEN( value
  field-name)

  IND( value
  field-name)

  LIND( value
  field-name)

  RIND( value
  field-name)

  SIND( value
  field-name)

  LCOL( field-name)

  LCOL( field-name)

  RCOL( field-name)

  SCALE( field-name)

  SCROLL( value
  field-name)

  NOLR
```

Attribute Section

```plaintext
)ATTR  DEFAULT( def1 def2 def3)

  FORMAT( EBCDIC
          DBCS
          MIX)

  OUTLINE( NONE
           L
           R
           O
           U
           BOX
```

Panel definition statements and functions
Panel definition statements and functions

**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) SMSG( field-name) LMSG( field-name) ➔`
- `ASIS ➔ WINDOW( width, depth) ➔`
- `OUTLINE( L R O U NONE BOX ➔ )`
- `DEFAULT( def1, def2, def3) KANA WIDTH( width) ➔`
- `EXPAND( xy) FORMAT( EBCDIC DBCS MIX ➔ )`
Note: All keywords must be specified on the same panel line.

Model Section

```plaintext
MODEL
  CLEAR(var-name)
  SFIHDR
  ROWS(ALL SCAN)
```

Area Section

```plaintext
AREA name
  DEPTH(depth)
```

Initialization Section

```plaintext
INIT
```

Reinitialization Section

```plaintext
REINIT
```

Processing Section

```plaintext
PROC
```

Field Section

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

Help Section

```plaintext
HELP field-name
  PANEL(help-panel-name)
  MSG(msg_name)
  PASSTHRU
```
Panel definition statements and functions

**List Section**

\[
\text{LIST} \quad \text{list-name} \quad \text{VAL(} \text{value} \text{)} \quad \text{CHOICE(} \text{value} \text{)}
\]

\[
\text{PNTS} \quad \text{FIELD(} \text{field-name} \text{)} \quad \text{VAR(} \text{variable} \text{)} \quad \text{VALUE(} \text{value} \text{)}
\]

\[
\text{DEPTH(} \text{depth} \text{)} \quad \text{IMAGE(} \text{image-name} \text{)} \quad \text{IMAGEP(} \text{image-name} \text{)}
\]

\[
\text{TEXT(} \text{text} \text{)} \quad \text{PLACE(} \text{a,b,l,r} \text{)}
\]

**Panel statements and built-in functions**

**Attribute section**

\[
\text{attrchar}
\]

\[
\text{AREA(} \text{DYNAMIC} \text{)} \quad \text{EXTEND(} \text{OFF} \text{)} \quad \text{SCROLL(} \text{OFF} \text{)}
\]

\[
\text{USERMOD(} \text{usermod-code} \text{)} \quad \text{DATAMOD(} \text{datamod-code} \text{)}
\]

\[
\text{AREA(} \text{GRAPHIC} \text{)} \quad \text{EXTEND(} \text{OFF} \text{)}
\]

\[
\text{AREA(} \text{SCRL} \text{)} \quad \text{EXTEND(} \text{OFF} \text{)}
\]

\[
\text{ATTN(} \text{OFF} \text{)} \quad \text{CAPS(} \text{ON} \text{)}
\]

\[
\text{OFF} \quad \text{OUT}
\]

\[
\text{IN}
\]
Panel definition statements and functions

CKBOX( OFF ON )
COLOR( value )
CSRGUP( x )

COMBO( OFF ON )
CUADYN( value )

DDLIST( OFF ON )
DEPTH( d )

FORMAT( EBCDIC DBCS MIX )
HILITE( value )

GE( OFF ON )
INTENS( HIGH LOW NON )

JUST( LEFT RIGHT ASIS )
LISTBOX( OFF ON )

NOJUMP( OFF ON )
NUMERIC( OFF ON )

OUTLINE (NONE)
(BOX)

Dialog development information 35
Panel definition statements and functions

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

<table>
<thead>
<tr>
<th>TYPE Value</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Action Bar Unselected Choices</td>
</tr>
<tr>
<td>ABSL</td>
<td>Action Bar Separator Line</td>
</tr>
<tr>
<td>CEF</td>
<td>Choice Entry Field</td>
</tr>
<tr>
<td>CH</td>
<td>Column Heading</td>
</tr>
<tr>
<td>CHAR</td>
<td>Character attributes in a dynamic area</td>
</tr>
</tbody>
</table>
Panel definition statements and functions

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

\[ \text{variable} = \text{value} \]

- \( \text{LVLINE( areaname)} \)
- \( \text{PFK( value)} \)
- \( \text{TRANS( variable, value, MSG= message-id)} \)
- \( \text{TRUNC( variable, value)} \)
- \( \text{ADDSOSI( variable)} \)
- \( \text{DELSOSI( variable)} \)
- \( \text{ONEBYTE( variable)} \)
- \( \text{TWOBYTE( variable)} \)

- \( \text{GOTO } \label \text{ label} \)

- \( \text{IF( variable operator value) ELSE EXIT} \)

- \( \text{PANEXIT( value)} \)

- \( \text{PGM, exit-add} \), \( \text{MSG= msgid} \)
- \( \text{LOAD, exit-mod} \), \( \text{MSG= msgid} \)
- \( \text{REXX, rexx-name} \), \( \text{MSG= msgid} \), \( \text{TSOENV} \)

- \( \text{REFRESH( field)} \)
Panel definition statements and functions

**VER keywords**

<table>
<thead>
<tr>
<th>ALPHA</th>
<th>ALPHAB</th>
<th>BIT</th>
<th>DBCS</th>
<th>DSNAME</th>
<th>DSNAMEF</th>
</tr>
</thead>
<tbody>
<tr>
<td>DSNAMESFM</td>
<td>DSNAMESPQ</td>
<td>EBCDIC</td>
<td>ENUM</td>
<td>FILEID</td>
<td></td>
</tr>
<tr>
<td>HEX</td>
<td>IDATE</td>
<td>INCLUDE</td>
<td>ITIME</td>
<td>JDATE</td>
<td>JSTD</td>
</tr>
<tr>
<td>LEN</td>
<td>LIST</td>
<td>LISTV</td>
<td>LISTVX</td>
<td>LISTX</td>
<td>MIX</td>
</tr>
<tr>
<td>NAME</td>
<td>NAMEF</td>
<td>NUM</td>
<td>PICT</td>
<td>PICTON</td>
<td>RANGE</td>
</tr>
<tr>
<td>STDDATE</td>
<td>STDTIME</td>
<td>VSYM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Panel control variables**

- ALARM=NO)
- ALARM=YES)
- ALARM= blank)
- ALARM= null)
- ALARM= variable)

**ATTR(field)** — keyword(value)
Panel definition statements and functions

.ATTRCHAR( char ) = ' keyword(value) '

.AUTOSEL=YES)
.AUTOSEL=NO)

.CSRPOS =cursor-position

.CSRROW =table-row-number

.CURSOR =field-name

.HELP =panel-name

.MSG =message-id

.PFKEY = 1

Notes:
1 Contains function key pressed by user (PF01,PF02, ...,PF24).

.RESP = ENTER END

.TRAIL = 1

Notes:
1 Contains remainder from TRUNC operation.

.ZVARS ='(name-list)'
Message definitions

msgid 'short message' .HELP= panel-name NOKANA KANA

.WINDOW= RESP NORESP LRESP LNORESP

.TYPE= NOTIFY WARNING ACTION CRITICAL

.long message +

.long message +

.long message +

Skeleton control statements

)BLANK number

)CM comment

)DEFAULT abcdefg

)DO

do-expression WHILE while-expression UNTIL until-expression FOREVER count

)ITERATE )LEAVE )ENDDO

)DOT table-name SCAN (name-cond-pairs)

)IF relational-expression THEN control-statement )ELSE

control-statement )NOP
Skeleton control statements

1. **IM** — **skel-name**
   - NT
   - OPT
   - EXT
   - NOEXT

2. **REXX**
   - variable
   - REXX=
   - %
   - rexxname
   - ,(TSOENV)
   - )ENDREXX

3. **SEL** — **relational-expression** — )ENDSEL

4. **SET** — **variable** = **expression**

5. **SETF** — **variable** = **expression**

6. **TB**
   - value
   - 1

Notes:

1. Maximum of 16 values.

7. **TB**
   - value
   - 1
   - A

Notes:

1. Maximum of 16 values.

8. **TBA**
   - value
   - 1

Notes:

1. Maximum of 16 values.
Chapter 3. ISPF service syntax with return codes

Here are 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 this 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.

The importance of parameter order, and using placeholders for optional parameters

For several of the ISPF services, the syntax for call invocation (shown under “Call invocation format”) includes a number of optional parameters. These optional parameters are positional; that is:

• Each optional parameter you choose to specify must be specified in the sequence shown in the syntax diagram.

• Where you specify a parameter without specifying one or more previous optional parameters, the absence of each previous optional parameter must be indicated by a placeholder in the form of a blank enclosed in single quotes followed by a comma. (For the purpose of clarity, the syntax diagrams show only the comma.)

For example, in the call invocation for the ADDPOP service shown here, the first and third optional parameters have been specified (field-name and column respectively), whilst the second optional parameter (in this case, row) has been omitted:

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

When you do not specify an optional parameter, the default value (if any) for that parameter applies.

It is only necessary to include placeholders for unspecified intermediate parameters. That is, once you have specified the last optional parameter you want, there is no need to specify placeholders for subsequent optional parameters (if any); if there are default values for any subsequent optional parameters, then they will apply.

Further examples:

All optional parameters specified:
```
CALL ISPLINK ('DISPLAY ', panel-name, message-id, cursor-field-name, cursor-position, stack-buffer-name, ret-buffer-name, ret-length-name, message-field-name);
```

First five optional parameters specified:
```
CALL ISPLINK ('DISPLAY ', panel-name, message-id, cursor-field-name, cursor-position, stack-buffer-name);
```

First, third, and fourth optional parameters specified:
```
CALL ISPLINK ('DISPLAY ', panel-name, ' ', cursor-field-name, cursor-position);
```

Third, fourth, and seventh optional parameters specified:
```
CALL ISPLINK ('DISPLAY ', ' ', ' ', cursor-field-name, cursor-position, ' ', ' ', ret-length-name);
```
Command format

This section describes the general format for ISPF services.

**ISPEXEC command invocation**

The general format for a command invocation is:

```
ISPEXEC  service-name  parameter
```

**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`
  - `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, parameter)
```

**CALL ISPLINK parameters**

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

Parameters shown below the line 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.

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
             'NO'
             'YES'
            );
```

**Read routine return codes**

- **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 return codes**

- **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 return codes**

- **0**
  Normal completion.

- **12**
  No data to browse.
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.

Severe error; unable to continue.

BROWSE—Browse a data set

Command invocation format

\[
\text{ISPEXEC} \rightarrow \text{BROWSE} \rightarrow \text{DATASET( } \text{dsname} \text{) \rightarrow \text{VOLUME( } \text{serial} \text{) \rightarrow \text{PASSWORD( } \text{pswd-value} \text{) \rightarrow \text{PANEL( } \text{panel-name} \text{) \rightarrow \text{MIXED(NO) \rightarrow \text{FORMAT( } \text{format-name} \text{) \rightarrow \text{MIXED(YES) \rightarrow OR \rightarrow ISPEXEC} \rightarrow \text{BROWSE} \rightarrow \text{DATAID( } \text{data-id} \text{) \rightarrow \text{MEMBER( } \text{member-name} \text{) \rightarrow \text{GEN( } \text{generation} \text{) \rightarrow \text{MIXED(NO) \rightarrow \text{PANEL( } \text{panel-name} \text{) \rightarrow \text{FORMAT( } \text{format-name} \text{) \rightarrow \text{MIXED(YES) \rightarrow OR \rightarrow ISPEXEC} \rightarrow \text{BROWSE} \rightarrow \text{FILE( } \text{file-var} \text{) \rightarrow \text{PANEL( } \text{panel-name} \text{) \rightarrow \text{MIXED(NO) \rightarrow \text{FORMAT( } \text{format-name} \text{) \rightarrow \text{MIXED(YES) \rightarrow \text{RECLN( } \text{rec-len} \text{) \rightarrow}}\]
Call invocation format

CALL ISPLINK ('BROWSE⌂⌂',
    dsname, serial
    pswd-value, panel-name, data-id
    'NO⌂⌂⌂⌂⌂⌂',
    member-name, format-name, 'YES⌂⌂⌂⌂⌂'
    file-var, rec-len, generation
); →

OR

CALL ISPEXEC (buf-len, buffer); →

Return codes

0
   Normal completion.

12
   Zero-length data; empty sequential data set or z/OS UNIX file, or zero-length member of a partitioned data set.

14
   Member or generation (if specified) not found.

16
   One of these:
   • 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

CALL ISPEXEC (buf-len, buffer); OR
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.
DIRLIST—directory list service

Command invocation format

```
ISPEXEC — DIRLIST — PATH(path-var) CONFIRM(YES) CONFDRD(NO)

CONFIRM(NO) CONFDRD(YES)

PANEL(panel-name) COLS(column-list) FIXCOLS(YES)

FIXCOLS(NO)

LCMDS(line-command-list)
```

Call invocation format

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

OR

CALL — ISPLINK — ('DIRLIST', path-var, path-var, 'YES', 'NO', panel-name, column-list, 'YES', 'NO', line-command-list, 'YES', 'NO'); 
```

Return codes

0
Normal completion.

8
Error building the directory list. The error condition is described in the ISPF system dialog variables.

12
A keyword value is incorrect.

20
A severe error occurred while processing the directory list.
DISPLAY—display panels and messages

Command invocation format

```
ISPEXEC DISPLAY
   PANEL(panel-name) MSG(message-id)
   CURSOR(cursor-field-name) CSRPOS(cursor-position)
   COMMAND options
   COMMAND (--- stack-buffer-name ---)
   RETBUFR(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.
Severe error.

**DSINFO—data set information dialog**

**Command invocation format**

\[ \text{ISPEXEC} \rightarrow \text{DSINFO} \rightarrow \text{DATASET} (\text{dsname}) \rightarrow \text{VOLUME} (\text{serial}) \]

**Call invocation format**

\[ \text{CALL} \rightarrow \text{ISPEXEC} \rightarrow (\text{buf-len}, \text{buffer}); \rightarrow \]

OR

\[ \text{CALL} \rightarrow \text{ISPLINK} \rightarrow ('\text{DSINFO⌂⌂}', \text{dsname}, \text{serial}) \rightarrow \]

**Return codes**

0

Normal completion.

8

User requested data set was not found.

12

One of these:

- 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, 'NO⌂⌂⌂⌂⌂⌂', 'YES⌂⌂⌂⌂⌂⌂',
  parm-var, tabname);

OR

CALL ISPLINK ('EDIF⌂⌂⌂⌂',
  data-name, '⌂', rec-format,
  rec-len, read-routine, write-routine, cmd-routine,
  dialog-data, '⌂', '⌂', '⌂', '⌂', '⌂', '⌂',
  'YES⌂⌂⌂⌂⌂', '⌂',
  parm-var, tabname);

Read routine return codes

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

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(NO, YES)
               LOCK(NO, YES)
               CONFIRM(NO, YES)
               WS(NO, YES)
               WRAP
               PRESERVE
               PARM(parm-var)
               ASCII
               UTF8
               LINECMDS(tabname)
```

OR
EDIT service syntax with return codes 59
EDIT service

- ISPEXC
- EDIT
- FILE(file-var)
  - PANEL(panel-name)
  - MACRO(macro-name)
- PROFILE(profile-name)
- FORMAT(format-name)
  - MIXED(NO, YES)
  - LOCK(NO, YES)
- CONFIRM(NO, YES)
  - WS(NO, YES)
- WRAP
- PRESERVE
- PARM(parm-var)
- RECLEN(rec-len)
  - ASCII
  - UTF8
  - LINECMDS(tabname)
Call invocation format

\[
\text{CALL ISPLINK ('EDIT', dsname, serial, pswd-value, panel-name, macro-name, profile-name, member-name, data-id, member-name, format-name, NO, NO, YES, YES, NO, NO, YES, NO, YES, WRAP, PREERVE, NO, parm-var, file-var, rec-len, \text{'ASCII', \text{'UTFB}, tabname, generation, \text{'YES}, \text{'YES}, \text{'YES, buf-len, buffer);}
\]

OR

\[
\text{CALL ISPEXEC (buf-len, buffer);}
\]

Return codes

0
Normal completion; data was saved.

4
Normal completion; data was not saved.

10
Member or generation (if specified) not found.

12
YES was specified for the LOCK parameter.

14
Member, sequential data set, or z/OS UNIX file in use.
EDREC service

One of these:
- No members matched the specified pattern.
- No members in the partitioned data set.

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

Severe error; unable to continue.

EDREC—specify edit recovery handling

Command invocation format

```
ISPEXEC EDREC
```

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

\[
\text{ISPEXEC \ FILESTAT \ \\ \ FILE(var-name) \ \ \ \ LRECL(var-name),DATE(var-name)}
\]

Call invocation format

\[
\text{CALL \ ISPLINK \ ('FILESTAT', var-name, var-name, var-name);}
\]

Return codes

0
Workstation file exists.

4
Workstation file does not exist.

8
Error in variable specification.

10
No workstation connection exists.

12
Workstation device is not ready.

20
Severe error in FILESTAT service.
FILEXFER service

FILEXFER—upload or download file

Command invocation format

```
ISPEXEC FILEXFER HOST(var-name) WS(var-name) TO(HOST WS)

VOLUME(volume)

TEXT

STATS

CHKDATE(NO)

NO

YES

NOSTATS

CHKDATE(YES)

SETDATE(NO)

NO

YES

MAKEPATH(NO)

MAKEPATH(YES)

SCLM

SETDATE(YES)

MAKEPATH(YES)
```

Call invocation format

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

OR

CALL ISPLINK ('FILEXFER', host_var, ws_var, '⌂' 'HOST⌂⌂⌂⌂', volume

'⌂' 'TEXT⌂⌂⌂⌂',

'BINARY⌂⌂'

'STATS⌂⌂⌂⌂',

'NO⌂⌂⌂⌂'

'YES⌂⌂⌂⌂'

'SCLM⌂⌂⌂⌂',

'⌂'

'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.
No workstation connection exists.

Return code 1 from DTTRANSFER. Host data set had null object handle.

Return code 2 from DTTRANSFER. Workstation file had null object handle.

Return code 3 from DTTRANSFER. Host data set could not be opened.

Return code 4 from DTTRANSFER. Workstation file could not be opened.

Return code 5 from DTTRANSFER. Error reading host data set.

Return code 6 from DTTRANSFER. Error reading workstation file.

Return code 7 from DTTRANSFER. Error writing host data set.

Return code 8 from DTTRANSFER. Error writing workstation file.

Return code 9 from DTTRANSFER. Error closing host data set.

Severe error in transfer service.

Return code 10 from DTTRANSFER. Error closing workstation file.

Return code 11 from DTTRANSFER. User refused file access.

Data set or member in use.

FTCLOSE—end file tailoring

Command invocation format

\[\text{ISPEXEC} \rightarrow \text{FTCLOSE} \left\{ \begin{array}{c}
\text{NAME}(\text{member-name}) \\
\text{LIBRARY}(\text{library}) \\
\text{NOREPL}
\end{array} \right. \]

Call invocation format

\[\text{CALL} \rightarrow \text{ISPEXEC} \left\{ \begin{array}{c}
(\text{buf-len}, \text{buffer}) \\
(\text{buf-len}, \text{buffer})
\end{array} \right. \]

OR

\[\text{CALL} \rightarrow \text{ISPLINK} \left\{ \begin{array}{c}
('\text{FTCLOSE}', \text{member-name}, \text{library}) \\
('\text{FTCLOSE}', \text{member-name}, \text{library})
\end{array} \right. \]

\[('\text{NOREPL}', \text{member-name}, \text{library}) \right. \]
FTERASE service

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

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

\[
\text{\textbullet ISPEXC -- FTINCL -- skel-name}
\]

\[
\text{\hspace{1cm} NOFT} \quad \text{\hspace{1cm} EXT}
\]

Call invocation format

\[
\text{\textbullet CALL -- ISPEXC -- (buf-len, buffer)};
\]

\[
\text{\hspace{1cm} OR}
\]

\[
\text{\textbullet CALL -- ISPLINK -- ('FTINCL', skel-name, 'NOFT', 'EXT')};
\]

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

\[
\text{\textbullet ISPEXC -- FTOPEN}
\]

\[
\text{\hspace{1cm} TEMP}
\]

Call invocation format

\[
\text{\textbullet CALL -- ISPEXC -- (buf-len, buffer)};
\]

\[
\text{\hspace{1cm} OR}
\]

\[
\text{\textbullet CALL -- ISPLINK -- ('FTOPEN', 'TEMP')};
\]
GETMSG service

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

ISPEXC — 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 ISPEXC (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*`

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

Return codes

0  
Normal completion.

8  
ISPF/GDDM 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*`

```
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*

CALL ISPLINK ('GRTERM⌂⌂');

Return codes

0
Normal completion.

20
Severe error.

LIBDEF—allocate application libraries

Command invocation format

**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 ISPEXEC lib-type DATASET ID(dataset-list) COND UNCOND EXCLDATA LIBRARY EXCLLIBR ID(libname) STACK STKADD

Call invocation format

**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 ISPEXEC (buf-len, buffer);
CALL ISPLINK (LIBDEF, lib-type, 'DATASET', 'EXCLDATA', 'LIBRARY', 'EXCLLIBR', dataset-list, libname),

, 'COND', 'UNCOND', 'STACK', 'STKADD');

Return codes
0
Normal completion.
4
When removing the application library: Application library does not exist for this type.
When STKADD is specified: There is no existing stack.
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⌂⌂⌂⌂');

\begin{itemize}
\item ['SINGLE⌂⌂'
\item ['DOUBLE⌂⌂'
\item ['TRIPLE⌂⌂'
\item ['OVERSTRK'
\item ['CC⌂⌂⌂⌂⌂⌂'
\end{itemize}

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

\begin{itemize}
\item ISPEXEC LMCLOSE DATAID( data-id )
\end{itemize}

Call invocation format

\begin{itemize}
\item CALL ISPLINK ('LMCLOSE⌂', data-id);
\end{itemize}

OR

\begin{itemize}
\item CALL ISPEXEC (buf-len, buffer);
\end{itemize}

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

\begin{itemize}
\item ISPEXEC LMCOMP DATAID( data-id )
\end{itemize}
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 these:
• 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) SCLMSET(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⌂⌂⌂⌂⌂⌂',
             'NO⌂⌂⌂⌂⌂⌂', '⌂', 'ALIAS⌂⌂⌂', 'NOALIAS⌂');
```

OR

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

Return codes

0
Normal completion.

4
Member not available, which indicates one of these situations:
- The "from" data set is empty.
- No members matched the specified pattern in the "from" data set.

8
- The from-member-name was not found.
- The same name was specified for to-member-name and from-member-name.

10
No data set is associated with the given data ID.

12
One of these:
- 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", either by you or by another user, and could not be copied
- Invalid data set organization
- Data set attribute invalid for copying or copying packed data
- Open error
- LOCK parameter is specified

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)
CONFIRM(NO)

PANEL(panel-name)

CATALOG(NO)
CATALOG(YES)

TOTALS(NO)
TOTALS(YES)

STATUS(YES)
STATUS(NO)

EXDATE(NO)
EXDATE(YES)

REFLIST(NO)
REFLIST(YES)

Call invocation format

CALL — ISPEXEC — (buf-len,buffer);

OR

CALL — ISPLINK('LMDDISP',
  dslist-id,
  'VOLUME'
  'SPACE'
  'ATTRIB'
  'TOTAL'
  'YES'
  'NO'

  panel-name
  'YES'
  'NO'

  'YES'
  'NO'

  'YES'
  'NO'

  'YES'
  'NO'
 );

Return codes

0
Normal completion.

10
A data set list does not exist for the list-id specified via keyword LISTID.
Invalid parameter value.

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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>8</td>
<td>Free dslist-id failed. The error condition is described in “Dialog error” on page 240.</td>
</tr>
<tr>
<td>10</td>
<td>No data set level or volume is associated with the given dslist-id. LMDINIT has not been completed.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error; unable to continue.</td>
</tr>
</tbody>
</table>

**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);
```

```
volume-serial
```

```
```
Return codes

0
Normal completion. The unique dslist-id is returned in the variable specified in keyword LISTID.

8
Dslist-id not created; the error condition is described “Dialog error” on page 240.

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(dslist-id)

OPTION(
    LIST
    FREE
    SAVE
    SAVEC
    TOTALS
)

DATASET(dataset-var)

STATS(NO)

GROUP(group)

STATUS(YES)

STATUS(NO)
```

Call invocation format

```
CALL   ISPLINK   ('LMDLIST' ,dslist-id ,dataset-var)

'LIST'

'FREE'

'SAVE'

'SAVEC'

'TOTALS'

'NO'

'YES'

'NO'

'YES'

');
```

OR
CALL ISPEXC (buf-len, buffer);

Return codes
0
One of these:
  • 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. The total number of tracks and data sets are returned to dialog variables in the function pool, if requested.
  • SAVEC option - Normal completion. The data set list has been successfully written to a data set. The total number of tracks and data sets are returned to dialog variables in the function pool, if requested.
  • TOTALS option - Normal completion. No list has been written to a data set. The total number of tracks and data sets are returned into dialog variables the function pool.

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

ISPEXC LMERASE PROJECT(project) GROUP(group) TYPE(type)
DATASET(dataset)

PURGE(NO)

PURGE(YES)

VOLUME(volume)

PASSWORD(password)
Call invocation format

CALL ISPLINK('LMERASE⌂','project,group,type',dataset,{'NO⌂⌂⌂⌂⌂⌂','YES⌂⌂⌂⌂⌂⌂'},volume,password);

OR

CALL ISPEXEC(buf-len,buffer);

Return codes

0  Normal completion.
8  One of these:
   • 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

CALL ISPLINK('LMFREE⌂⌂',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 240.
No ISPF library or data set is associated with the given data ID; that is, LMINIT has not been completed.

Severe error; unable to continue.

**LMGET—read a logical record from a data set**

**Command invocation format**

```
ISPEEXEC LMGET DATAID(data-id) MODE(MOVE LOCATE INVAR MULTX) DATALOC(dataloc-var) DATALEN(datalen-var) MAXLEN(max-length)
```

**Call invocation format**

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

OR

```
CALL ISPEEXEC (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 these:
  - 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 options
            —  DATASET( dsname )
            —  DDNAME( ddname )
            —  VOLUME( serial )
            —  PASSWORD( password )
            —  ENQ( SHR, EXCLU, SHRW, MOD )
            —  ORG( org-var )
```

### PROJECT options
```
PROJECT( project )
            —  GROUP1( group1 )
            —  TYPE( type )
            —  GROUP2( group2 )
            —  GROUP3( group3 )
            —  GROUP4( group4 )
```

### 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.
LMMADD—add a member to a data set

Command invocation format

ISPEXEC — LMMADD — DATAID(data-id) — MEMBER(member-name)

STATS(NO)
STATS(YES)

EXT(NO)

NOENQ

EXT(YES)

Call invocation format

CALL — ISPLINK — LMMADD, data-id, member-name

'NO

'YES

'NO

'YES

OR

CALL — ISPEXEC — buff-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 these:
- 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.
Truncation or translation error in accessing dialog variables.

Severe error; unable to continue.

**LMMDEL—delete members from a data set**

**Command invocation format**

```plaintext
ISPEXEC — LMMDEL — DATAID(data-id) — MEMBER(member-name) — NOENQ
```

**Call invocation format**

```plaintext
CALL ISPLINK('LMMDEL⌂⌂', data-id, member-name, 'NOENQ');
```

**OR**

```plaintext
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 these:
- 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(NO)
                      STATS(YES)
                      PANEL(panel-name)
                      CURSOR(ZCMD,ZLLCMD,ZLUDATA)
                      TOP(top-row)
                      COMMANDS(S,ANY)
                      FIELD(1,9)
                      ALLOWNEW
```

**Call invocation format**

```
CALL ISPLINK('LMMDISP', data-id, 'DISPLAY', pattern,
              'NO', 'YES', panel-name, 'ZCMD', 'ZLLCMD', 'ZLUDATA',
              top-row, 'S', 'ANY', 1, 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.
The requested data sets were empty, or no members matched the specified pattern.

END or RETURN was entered.

No data set is associated with the given data ID; LMINIT has not been completed.

Indicates one of these conditions:
• Data sets not open.
• Data sets not partitioned.
• Invalid parameter value.
• Invalid data set organization.
• Invalid invocation syntax.

Truncation or translation error in accessing dialog variables.

Severe error; unable to continue.

**LMMDISP—member list service: GET option**

**Command invocation format**

```
ISPEXEC — LMMDISP — DATAID(data-id) — OPTION(GET)
```

---

**Call invocation format**

```
CALL — ISPLINK('LMMDISP', data-id,'GET', 'STATS(NO|YES)',
                'NO|YES',
                'buf-len', 'buffer');
```

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 these conditions:
• Data sets not open.
• Data sets not partitioned.
• Invalid parameter value.
LMMDISP service

- 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.

LMMDISP—member list service: 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, '⌂', '⌂', '⌂', '⌂', buf-len, buffer);
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 these 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.
LMMDISP—member list service: ADD option

Command invocation format

➤ ISPEXC — LMMDISP — DATAID( data-id ) — OPTION(ADD) — MEMBER( member-name ) ➤

➤ ZLLCMD( lcmsg-value ) ➤ ZLUDATA( udata-value ) ➤

Call invocation format

➤ CALL — ISPLINK('LMMDISP⌂', data-id, 'ADD⌂⌂⌂⌂⌂', member-name, '⌂', '⌂', '⌂', '⌂', lcmsg-value, udata-value); ➤

OR

➤ CALL — ISPEXC ( buflen, 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 these 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.

LMMDISP—member list service: DELETE option

Command invocation format

➤ ISPEXC — 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 these 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.

LMMDISP—member list service: 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.
Indicates one of these conditions:
- Data sets not open.
- Data sets not partitioned.
- Invalid parameter value.
- Invalid data set organization.
- Invalid invocation syntax.

Truncation or translation error in accessing dialog variables.

Severe error; unable to continue.

LMMFIND—find a library member

Command invocation format

```bash
ISPEXC — LMMFIND — DATAID( data-id ) — MEMBER( member-name )
       LOCK
       LRECL( lrecl-var )
       RECFM( recfm-var )
       GROUP( group-var )
       STATS(NO)
       STATS(YES)
       NOLLA
```

Call invocation format

```bash
CALL — ISPLINK — 'LMMFIND⌂', data-id — member-name — ,
       'LOCK⌂⌂⌂⌂'
       ,
       lrecl-var — recfm-var — group-var —
       'NO⌂⌂⌂⌂⌂⌂'
       ,
       'YES⌂⌂⌂⌂⌂⌂'
       'NOLLA⌂⌂⌂'

OR

CALL — ISPEXC — (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.
One of these:
- Data set is not open or is not open for input.
- A parameter value is invalid.
- Data set is not partitioned.
- LOCK parameter was specified.

A truncation or translation error occurred in accessing dialog variables.

Severe error; unable to continue.

LMMLIST—list a library's members

Command invocation format

CALL ISPEXEC — LMMLIST — DATAID(data-id)
  OPTION(
    LIST, FREE, SAVE
  )
  MEMBER(member-var)
  STATS(YES), STATS(NO)
  GROUP(group)
  PATTERN(member-pattern)
  LONG

Call invocation format

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

OR

CALL ISPEXEC (buf-len, buffer);
- 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 these:
- 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 these:
- 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**

**Call invocation format**

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

OR

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

**Return codes**

0
Successful completion.
LMMREN service

4
One of these:
• "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 these:
• 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 )
▶  ➔  ➔
▶  ➔  ➔
  ➔
  ➔

NEWWNAME( 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.
No data set is associated with the given data ID; that is, LMINIT has not been completed.

One of these:
- The data set is not open or is not open for output.
- The parameter value is invalid.
- The data set organization is invalid.

Severe error; unable to continue.

LMMREP—replace a member of a data set

Command invocation format

```
ISPEXEC  LMMREP  DATAID( data-id ) MEMBER( member-name )
```

Call invocation format

```
CALL  ISPLINK('LMMREP⌂⌂', data-id, member-name, 'NO⌂⌂⌂⌂⌂⌂', 'YES⌂⌂⌂⌂⌂⌂', 'NOENQ⌂⌂⌂', 'NO⌂⌂⌂⌂⌂⌂', 'YES⌂⌂⌂⌂⌂⌂', buffer);
```

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 these:
- 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.

No record has been written for the member to be replaced.

Truncation or translation error in accessing dialog variables.

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(OFF) SCLM(ON) SCLM(ASIS)

EXT(NO) EXT(YES) USER8(user-id8)
```

**LMMSTATS service**
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

'OFF''

'ON''

'ASIS''

'NOLLA''

'YES''

user-id8
```

OR

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

Return codes

0
Normal completion.

4
One of these:
• 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 these:
• 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 — LMOPEN — DATAID(data-id)
  OPTION(
    INPUT
    OUTPUT
  )
  LRECL(lrecl-var)
  RECFM(recfm-var)
  ORG(org-var)
```

**Call invocation format**

```
CALL — ISPLINK — ('LMOPEN', 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 these:
  - 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

```
ISPEXC — LMPRINT — DATAID( data-id )
    MEMBER( member-name )
    INDEX
    FORMAT(YES)
    FORMAT(NO)
    NOLLA
```

Call invocation format

```
CALL — ISPLINK — 'LMPRINT⌂', data-id — , member-name — , 'INDEX⌂⌂⌂'
    , 'YES⌂⌂⌂⌂⌂'
    , 'NO⌂⌂⌂⌂⌂⌂'
    , 'NOLLA⌂⌂⌂'
); ⌂
```

OR

```
CALL — ISPEXC — (buf-len,buffer); ⌂
```

Return codes

0
  Normal completion.

4
  One of these:
  • 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 these:
  • 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( dataloc-var ) — DATALEN( data-length ) — NOBSCAN
```

Call invocation format

```
CALL — ISPLINK — LMPUT, data-id — INVAR, MOVE, MULTX,
dataloc-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 these:
• 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

```
ISPEXC command invocation format
```
```
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.
LMRENAME service

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)  
  NEWTYPE( 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 these:
- 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**

```plaintext
ISPEXC LOG MSG(message-id)
```

**Call invocation format**

```plaintext
CALL ISPEXC (buf-len, buffer);
```

*OR*

```plaintext
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**

```plaintext
ISPEXC MEMLIST DATAID(data-id) MEMBER(pattern) CONFIRM(YES) CONFIRM(NO)
```

```plaintext
PANEL(panel-name)
```

```plaintext
FIELD(9)
```

```plaintext
DEFAULT(S)
```

**Call invocation format**

```plaintext
CALL ISPEXC (buf-len, buffer);
```

*OR*
PQUERY service

CALL ISPLINK ('MEMLIST', data-id, pattern

'YES⌂⌂⌂⌂⌂', 'NO⌂⌂⌂⌂⌂⌂', panel-name

'S', action

);

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 these:
• 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);
CALL ISPLINK ('PQUERY’, panel-name, area-name, area-type-name, area-width-name, area-depth-name, row-number-name, column-number-name);
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

These 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.
Severe error.

QUERYENQ—query system ENQ data

Command invocation format

ISPEXC 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

<table>
<thead>
<tr>
<th>Name</th>
<th>Size</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZENJOB</td>
<td>8</td>
<td>Job or address space name holding or requesting the ENQ</td>
</tr>
<tr>
<td>ZENQNAME</td>
<td>8</td>
<td>Qname portion of the ENQ</td>
</tr>
<tr>
<td>ZENRNAME</td>
<td>255</td>
<td>Rname portion of the ENQ</td>
</tr>
<tr>
<td>ZENDISP</td>
<td>5</td>
<td>SHARE or EXCLU</td>
</tr>
<tr>
<td>ZENHOLD</td>
<td>4</td>
<td>OWN or WAIT</td>
</tr>
<tr>
<td>ZENSCOPE</td>
<td>7</td>
<td>SYSTEM or SYSTEMS</td>
</tr>
<tr>
<td>ZENSTEP</td>
<td>7</td>
<td>STEP or blank</td>
</tr>
<tr>
<td>ZENGLOBL</td>
<td>6</td>
<td>GLOBAL or blank</td>
</tr>
<tr>
<td>ZENSYST</td>
<td>8</td>
<td>System name</td>
</tr>
</tbody>
</table>

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.
REMPOP service

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

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

Call invocation format

\[
\text{CALL} \quad \text{ISPEXEC} \quad (\text{buf-len, buffer}); \\
\text{OR} \\
\text{CALL} \quad \text{ISPLINK} \quad (\text{SELECT⌂⌂}, \text{length, keywords});
\]

Note: These parameters can appear in "keywords":

ISPF service syntax with return codes
Return codes

These return codes are possible if a panel is specified:

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

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.

Note:
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.

These 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.
Remote execution of commands was not allowed by the user.

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)
```

```
MSGLOC(message-field-name)
```

**Call invocation format**

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

**OR**

```
CALL — ISPLINK — (SETMSG, message-id , , 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)
```

```
MULT(number-of-rows)
```

```
ORDER
```
Call invocation format

CALL ISPEXEC (buf-len, buffer); OR

CALL ISPLINK ('TBBOTTOM', table-name, var-name, rowid-name, 'NOREAD⌂⌂', crp-name); OR

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
  ▼  NAME(alt-name)
      ▼  PAD(percentage)
      ▼  LIBRARY(library)
  ▼  REPLCOPY
  ▼  NEWCOPY

Call invocation format

CALL — ISPEXEC — (buf-len, buffer);

OR

CALL — ISPLINK — {'TBCLOSE', table-name, 'REPLCOPY'}
  ▼  'NEWCOPY'
  ▼  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 service

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 TEDISPL table-name PANEL(panel-name) MSG(message-id)
CURSOR(field-name) CSRROW(table-row-number)
CSRPOS(cursor-position) AUTOSEL(YES)
AUTOSEL(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', 'YES', 'NO', 'YES', 'NO', 'YES', 'NO', 'YES', 'NO',
                    '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 these 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 these:
  – 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 these 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**

```plaintext
ISPEXC — TBEND — table-name
```

**Call invocation format**

```plaintext
CALL — ISPEXC — (buf-len, — buffer);
```

OR

```plaintext
CALL — ISPLINK — ('TBENDтвержда', — table-name);
```

**Return codes**

0
Normal completion.

12
Table is not open.

20
Severe error.

**TBERASE—erase a table**

**Command invocation format**

```plaintext
ISPEXC — TBERASE — table-name
```

**Call invocation format**

```plaintext
CALL — ISPEXC — (buf-len, — buffer);
```

OR

```plaintext
CALL — ISPLINK — ('TBERASEтвержда', — table-name);
```
TBEXIST service

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). 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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>8</td>
<td>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.</td>
</tr>
<tr>
<td>12</td>
<td>Table is not open.</td>
</tr>
<tr>
<td>16</td>
<td>Variable value has been truncated, or insufficient space was provided to return all extension variable names.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

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 ('TBGET⌂⌂⌂', table-name, var-name, rowid-name, 'NOREAD⌂⌂', crp-name);**
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

ISPEEXEC TBOPEN table-name WRITE

SHARE

Call invocation format

CALL ISPEEXEC (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**

```plaintext
ISPEXEC TBPUT table-name
   SAVE(name-list)
   ORDER
```

**Call invocation format**

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

**OR**

```plaintext
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.
**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(lst-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)
          NAMECOND(name-cond-pairs)
          NEXT
          PREVIOUS
```

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
          REPLCOPY
          NEWCOPY
          NAME(alt-name)
          PAD(percentage)
          LIBRARY(library)
```

Call invocation format

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

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

CALL — ISPEXEC — TBSCAN — table-name

ARGLIST( name-list )

NEXT

SAVENAME( var-name )

ROWID( rowid-name )

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 — );

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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.
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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>12</td>
<td>Table is not open.</td>
</tr>
<tr>
<td>16</td>
<td>Numeric convert error.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>
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, date-updated-name, time-created-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

CALL 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.
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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>12</td>
<td>Table is not open.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

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 ;
VCOPY service

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
```

**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 or system symbol**

**Command invocation format**

```
ISPEXEC VGET name-list
```

**Call invocation format**

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

**OR**

```
CALL ISPLINK (VGET, name-list, ASIS, SHARED, PROFILE, BOTH),
```

SYMNAMES(symname-list), SYMDEF

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CALL ISPLINK ('VGET', name-list, 'ASIS', 'SHARED', 'PROFILE', 'SYMDEF'),

symname-list);  

Return codes

0
Normal completion.

8
Variable or system symbol 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

ISPEXC — VIEW — DATASET( dsname)

VOLUME( serial)

PASSWORD( pswd-value)

PANEL( panel-name)

MACRO( macro-name)

PROFILE( profile-name)

FORMAT( format-name)

MIXED( NO YES)

CONFIRM( YES NO)

WS( NO YES)

CHGWARN( YES NO)

PARM( parm-var)

ASCII UTF8

LINECMDS( tabname)

OR
Call invocation format

CALL ISPLINK ('VIEW⌂⌂⌂⌂',
              dsname ⌂, serial ⌂,
              pswd-value ⌂,
              panel-name ⌂,
              macro-name ⌂,
              profile-name ⌂,
              data-id ⌂,
              member-name ⌂,
              format-name ⌂,
              'NO⌂' '⌂' 'YES⌂',
              ws-filename-buffer-name ⌂,
              'YES⌂' '⌂' 'NO⌂',
              parm-var ⌂,
              '.ASCII⌂' 'UTF8⌂',
              tabname ⌂,
              generation ⌂);

OR

CALL ISPEXEC (buf-len, buffer);

Return codes

0
Normal completion

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

10
Member or generation (if specified) not found.

12
VIEW has been disabled through the ISPF configuration table.

14
Member, sequential data set, or z/OS UNIX file in use.

16
One of these:
• No members matched the specified pattern.
• No members in the partitioned data set.
A VSAM data set was specified but the ISPF Configuration Table does not allow VSAM processing.

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,
  'NO', 'YES',
  'NO', 'YES',
  parm-var,
  'YES',
  write-routine, .tabname);
```

**OR**

```
CALL ISPLINK ('VIIF',
  data-name, 'I',
  .rec-format,
  .rec-len, .read-routine, .cmd-routine, .dialog-data,
  'I', 'I', 'I', 'I', 'YES', 'I', 'write-routine,
  'I', .tabname);
```

**Read routine return codes**

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.
Severe error. (VIIF 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**

```ispec
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.
VPUT service

8
Variable not found.

20
Severe error.

VPUT—update variables in the shared or profile pool

Command invocation format

```
  ISPEXEC    VPUT    name-list
```

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.

VSYM service—resolve system symbols

Command invocation format

```
ISPEXEC  VSYM  — name-list—
```

Call invocation format

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

OR

```
CALL  ISPLINK  — (VSYM屺屺);  — name-list; ↷
```

Return codes

0
Normal completion.

4
One or more symbol names not substituted (no corresponding system symbol was found).
Variable not found in function pool.

Validation failed.

Truncation occurred resolving system symbols.

Severe error.

WSCON — Connect to a Workstation

Command invocation format

```plaintext
ISPEXEC WSCON 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 ('WSCON⌂⌂⌂', 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—disconnect from a workstation**

Command invocation format

```
ISPEXEC WSDISCON
```

Call invocation format

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

OR

```
CALL ISPEXEC (buf-len, buffer);
```
**WSDISCON service**

**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 GUICRD or GUICRW 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 4. 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
```

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion</td>
</tr>
<tr>
<td>20</td>
<td>Severe error</td>
</tr>
</tbody>
</table>

**AUTONUM—set or query Autonum mode**

Macro command syntax

```
ISREDIT AUTONUM
```

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion</td>
</tr>
</tbody>
</table>
AUTOSAVE—set or query Autosave mode

Macro command syntax

```
ISREDIT AUTOSAVE
```

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>4</td>
<td>OFF NOPROMPT specified.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

BLKSIZE—query the block size

Assignment statement syntax

```
ISREDIT (varname) = BLKSIZE
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>12</td>
<td>Syntax error.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

Note: For a z/OS UNIX file, the BLKSIZE assignment statement returns a value of 0.
**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
```
CANCEL edit macro

Return codes
n
Return code from the built-in command.

20
Severe error.

CANCEL—cancel edit changes

Macro command syntax

\[ \text{ISREDIT} \quad \text{CANCEL} \]

Return codes

0
Normal completion.

20
Severe error.

CAPS—set or query Caps mode

Macro command syntax

\[ \text{ISREDIT} \quad \text{CAPS} \quad \text{ON} \quad \text{OFF} \]

Assignment statement syntax

\[ \text{ISREDIT} \quad (\text{varname}) \quad = \quad \text{CAPS} \quad \text{ON} \quad \text{OFF} \]

Return codes

0
Normal completion.

20
Severe error.
CHANGE—change a search string

Macro command syntax

```
ISREDIT  CHANGE  string1 string2
          .ZFIRST  .ZLAST
          labela  labelb
          NEXT
          ALL
          FIRST
          LAST
          PREV
          CHARS
          PREFIX
          SUFFIX
          WORD
          X
          start_col
          left_col
          right_col
```

Return codes

- **0**: Normal completion.
- **4**: String not found.
- **8**: Change error. String-2 is longer than string-1 and substitution was not performed on at least one change.
- **12**: Inconsistent parameters. The string to be found will not fit between the specified columns.
- **20**: 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
                   SESSION
                   EXCLUDE
                   SAVE
                   SYSIN
```

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

```
ISREDIT  COPY                     member
                    (member)
                        dsname
                        dsnamemember
                        pathname
                        start_line
                        end_line
                        ASCII
                        EBCDIC
                        UTF8
                        AFTER
                        label
                        BEFORE
```

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 or data set member

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.

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**

[Diagram of ISREdit command syntax]

**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**

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

**Return codes**

0  
Normal completion.

20  
Severe error.

**DATA_WIDTH—query data width**

**Assignment statement syntax**

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

**Return codes**

0  
Normal completion.

12  
Invalid command format.

20  
Severe error.
**DATAID—query data ID**

**Assignment statement syntax**

```plaintext
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**

```plaintext
ISREDIT (var1,var2,var3) = DATASET
```

**Return codes**

0  
Normal completion.
20  
Severe error.

**DEFINE—define a name**

**Macro command syntax**

```plaintext
ISREDIT DEFINE name
```

**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.
DEF INE was attempted for a name not currently defined.

Severe error (unknown command).

**DELETE—delete lines**

Macro command syntax

```
ISREDIT — DELETE
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal (lines deleted successfully).</td>
</tr>
<tr>
<td>4</td>
<td>No lines deleted.</td>
</tr>
<tr>
<td>8</td>
<td>No standard records exist.</td>
</tr>
<tr>
<td>12</td>
<td>Invalid line number.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

**DISPLAY_COLS—query display columns**

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>12</td>
<td>Invalid command format.</td>
</tr>
</tbody>
</table>
Severe error.

**DISPLAY_LINES—query display lines**

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>4</td>
<td>No visible data lines.</td>
</tr>
<tr>
<td>8</td>
<td>No existing data lines.</td>
</tr>
<tr>
<td>12</td>
<td>Invalid command format.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

**DOWN—scroll down**

Macro command syntax

```
ISREDIT DOWN amt
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>2</td>
<td>No more data DOWN.</td>
</tr>
<tr>
<td>4</td>
<td>No visible lines.</td>
</tr>
<tr>
<td>8</td>
<td>No visible lines.</td>
</tr>
<tr>
<td>12</td>
<td>No data to display.</td>
</tr>
<tr>
<td>20</td>
<td>Amount not specified.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

**EDIT—edit from within an edit session**

Macro command syntax

```
ISREDIT EDIT member
```

Edit macro commands 151
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
```

...
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

\[
\text{ISREDIT} \ (\text{var1, var2}) = \text{EXCLUDE_COUNTS}
\]

Return codes

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

FIND—find a search string

Macro command syntax

\[
\text{ISREDIT} \ FIND \ string \ .ZFIRST \ .ZLAST \ NEXT
\]

\[
\begin{aligned}
&\text{CHARS} \\
&\text{PREFIX} \\
&\text{SUFFIX} \\
&\text{WORD} \\
&\text{X} \\
&\text{NX} \\
&\text{left_col} \\
&\text{right_col}
\end{aligned}
\]

Return codes

0  Normal completion.
### 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
```

Assignment statement syntax

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

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` — `OFF`
- `LOGIC` — `IFLOGIC` — `DOLOGIC` — `NOLOGIC`
- `AUTO` — `DEFAULT` — `OTHER` — `ASM` — `BOOK` — `C`
- `COBOL` — `DTL` — `HTML` — `JCL` — `PANEL` — `PASCAL` — `PLI` — `REXX` — `SKEL` — `IDL` — `SUPERC` — `XML`
- `MARGINS(left,right)` — `RESET` — `PAREN` — `FIND` — `CURSOR` — `SEARCH` — `DISABLED`

**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.
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

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.

**LF—realign data on the ASCII linefeed character**

**Macro command syntax**

\[
\text{ISREDIT — LF}
\]

**Return codes**

0  Normal completion.

**LINE—set or query a line from the data set**

**Assignment statement syntax**

\[
\text{ISREDIT — (varname) — = — LINE — lptr}
\]

\[
\text{ISREDIT — LINE — lptr — = — data}
\]

**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 linenumber = DATALINE
                INFOLINE
                MSGLINE
                NOTELINE
                data
```

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 linenumber = DATALINE
                INFOLINE
                MSGLINE
                NOTELINE
                data
```

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

\[ \text{ISREDIT} \quad (\text{varname}) \quad = \quad \text{LINENUM} \quad \text{label} \]

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

\[ \text{ISREDIT} \quad \text{LOCATE} \quad lptr \]

Generic locate syntax

\[ \text{ISREDIT} \quad \text{LOCATE} \quad \text{FIRST} \quad \text{LAST} \quad \text{PREV} \quad \text{NEXT} \quad \text{CHANGE} \quad \text{COMMAND} \quad \text{ERROR} \quad \text{EXCLUDED} \quad \text{LABEL} \quad \text{SPECIAL} \quad \text{INFLINE} \quad \text{MSGLINE} \quad \text{NOTELINE} \quad .ZFIRST \quad .ZLAST \]

\[ \text{label} \quad \text{labelb} \]
LRECL edit macro

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

PROCESS

NOPROCESS

variable

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.

MACRO_MSG—set or query the macro message switch

Assignment statement syntax

```
ISREDIT (varname) = MACRO_MSG
```

```
ISREDIT  MACRO_MSG = [ON, OFF]
```

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.
MEMBER—query the current member name

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>12</td>
<td>Invalid command format.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

MEND—end a macro in the batch environment

Macro command syntax

```
ISREDIT MEND
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

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 BEFORE
```

```
linenum label NOTES 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

Syntax

ISEDIT — MOVE

(member) (member)

dsnname
pathname

AFTER
BEFORE

linenum
label

ASCII
EBCDIC
UTF8

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

ISEDIT — 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 —

ON

OFF
```

Return codes

0
Normal completion.

20
Severe error.

NULLS—set or query Nulls mode

Macro command syntax

```
ISREDIT — NULLS

ON — STD

ALL

ON

STD

ALL

OFF
```

Assignment statement syntax

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

ON — STD

ALL

ON

STD

ALL

OFF
```
Return codes

0
Normal completion.

20
Severe error.

**NUMBER—set or query Number mode**

**Macro command syntax**

Notes:

1 STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.

**Assignment statement syntax**

Notes:

**Return codes**

0
Normal completion.

20
Severe error.

**PACK—set or query Pack mode**

**Macro command syntax**
PASTE edit macro

Assignment statement syntax

\[ \text{ISREDIT} \ (\text{varname}) \ = \ \text{PACK} \]

\[ \text{ISREDIT} \ \text{PACK} \ = \ \begin{cases} \text{ON} \\ \text{OFF} \end{cases} \]

Return codes

0  
Normal completion.

20  
Severe error.

PASTE—move or copy lines from clipboard

Macro command syntax

\[ \text{ISREDIT} \ \text{PASTE} \ \begin{cases} \text{DEFAULT} \\ \text{clipbaord_name} \end{cases} \ \begin{cases} \text{AFTER} \\ \text{linenum} \end{cases} \ \begin{cases} \text{BEFORE} \\ \text{label} \end{cases} \]

\[ \begin{cases} \text{DELETE} \\ \text{KEEP} \end{cases} \ \begin{cases} \text{ASIS} \end{cases} \]

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

\[ \text{ISREDIT} \ \text{PRESERVE} \ \begin{cases} \text{ON} \\ \text{OFF} \end{cases} \]

Assignment statement syntax

\[ \text{ISREDIT} \ (\text{varname}) \ = \ \text{PRESERVE} \]

\[ \text{ISREDIT} \ \text{PRESERVE} \ = \ \begin{cases} \text{ON} \\ \text{OFF} \end{cases} \]
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

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

**RANGE_CMD—query a command that you entered**

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>4</td>
<td>Line command not set.</td>
</tr>
<tr>
<td>8</td>
<td>Line command setting not acceptable.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

**RCHANGE—repeat a change**

Macro command syntax

```
ISREDIT — RCHANGE
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>4</td>
<td>String not found.</td>
</tr>
<tr>
<td>8</td>
<td>Change error (string-2 longer than string-1 and substitution was not performed on at least one change).</td>
</tr>
<tr>
<td>12</td>
<td>Syntax error.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>
**RECFM—query the record format**

*Assignment statement syntax*

\[
\text{ISREDIT (var1, var2) = RECFM}
\]

*Return codes*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

**RECOVERY—set or query Recovery mode**

*Macro command syntax*

\[
\text{ISREDIT RECOVERY ON SUSP OFF WARN NOWARN}
\]

*Assignment statement syntax*

\[
\text{ISREDIT (var1, var2) = RECOVERY}
\]

\[
\text{ISREDIT RECOVERY = ON SUSP}
\]

\[
\text{ISREDIT RECOVERY = OFF WARN}
\]

\[
\text{ISREDIT RECOVERY = OFF NOWARN}
\]

*Return codes*

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>
RENUM—renumber data set lines

Macro command syntax

![ISREDIT — RENUM diagram]

Notes:

1 STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.

Return codes

0
- Normal completion.

20
- Severe error.

REPLACE—replace a data set or data set member

Macro command syntax

![ISREDIT — REPLACE diagram]

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
  COMMAND
  ERROR
  EXCLUDED
  FIND
  HIDE
  LABEL
  SPECIAL
  ALL
  .ZFIRST — .ZLAST
  labela — labelb
  linenum1 — linenum2
```

**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
```
RMACRO—set or query the recovery macro

Macro command syntax

```plaintext
ISREDIT — RMACRO name NONE
```

Assignment statement syntax

```plaintext
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

```plaintext
ISREDIT — SAVE
```

Return codes

0
Normal completion.

4
New member saved.

12
Data not saved; not enough PDS space or directory space.
SAVE_LENGTH—set or query length for variable-length data

Macro command syntax

\[
\text{ISREDIT} \quad \text{(variable)} \quad = \quad \text{SAVE_LENGTH} \quad .lptr
\]

\[
\text{ISREDIT} \quad \text{SAVE_LENGTH} \quad .lptr \quad = \quad \text{value} \quad .lptr
\]

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

\[
\text{ISREDIT} \quad \text{SCAN} \quad \begin{cases} \text{ON} \\ \text{OFF} \end{cases}
\]

Assignment statement syntax

\[
\text{ISREDIT} \quad \text{(varname)} \quad = \quad \text{SCAN} \quad \begin{cases} \text{ON} \\ \text{OFF} \end{cases}
\]

Return codes

0
Normal completion.

20
Severe error.
SEEK—seek a data string, positioning the cursor

Macro command syntax

```
ISREDIT SEEK string .ZFIRST .ZLAST labela labelb NEXT
CHARS
ALL FIRST LAST PREV
X NX start_col left_col right_col
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>4</td>
<td>String not found.</td>
</tr>
<tr>
<td>12</td>
<td>Syntax error.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

SEEK_COUNTS—query seek counts

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error.</td>
</tr>
</tbody>
</table>

SESSION—identify type of session

Assignment statement syntax

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

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
</tbody>
</table>
20
Severe error.

SETUNDO—set UNDO mode

Macro command syntax

```
ISREDIT — SETUNDO
        STORAGE  KEEP  RECOVER  ON
        OFF
```

Assignment statement syntax

```
ISREDIT (varname) = SETUNDO

ISREDIT SETUNDO = STORAGE KEEP 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 2 n)
```

Return codes

0
Normal completion.

12
Invalid line number.

20
Severe error.
SHIFT ) —shift columns right

Macro command syntax

\[
\text{ISREDIT} \quad \text{SHIFT} \quad ) \quad lptr  \quad n
\]

Return codes

0
Normal completion.

12
Invalid line number.

20
Severe error.

SHIFT <—shift data left

Macro command syntax

\[
\text{ISREDIT} \quad \text{SHIFT} \quad \text{<} \quad lptr  \quad n
\]

Return codes

0
Normal completion.

12
Invalid line number.

20
Severe error.

SHIFT > —shift data right

Macro command syntax

\[
\text{ISREDIT} \quad \text{SHIFT} \quad > \quad lptr  \quad n
\]

Return codes

0
Normal completion.

12
Invalid line number.

20
Severe error.
SORT—sort data

Macro command syntax

```
ISREDIT  SORT

label-range

X
NX

sort-field1

sort-field2

sort-field3

sort-field4

sort-field5
```

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.

SOURCE—describe format of data

Macro command syntax

```
ISREDIT  SOURCE  character_encoding
```

Return codes

0
Normal completion.

STATS—set or query Stats mode

Macro command syntax

```
ISREDIT  STATS

ON
OFF
EXT
```
Assignment statement syntax

\[
\text{ISREDIT} \ (\text{varname}) = \text{STATS}
\]

\[
\text{ISREDIT} \ \text{STATS} = \begin{cases} 
\text{ON} \\
\text{OFF} \\
\text{EXT}
\end{cases}
\]

Return codes

0
Normal completion.

20
Severe error.

**SUBMIT—submit data for batch processing**

Macro command syntax

\[
\text{ISREDIT} \ \text{SUBMIT} (.ZFIRST .ZLAST \ labela \ labelb \ X \ NX)
\]

Return codes

0
Normal completion.

20
Severe error (submit failed).

**TABS—set or query Tabs mode**

Macro command syntax

\[
\text{ISREDIT} \ \text{TABS} (\text{ON} \ STD \ ALL \ tab\_character \ OFF)
\]

Assignment statement syntax

\[
\text{ISREDIT} \ (\text{var1, var2}) = \text{TABS}
\]
Return codes

0  Normal completion.
20  Severe error.

TABS LINE—set or query tabs line

Assignment statement syntax

\[ \text{ISREDIT} \quad \text{(varname)} \quad = \quad \text{TABSLINE} \quad \text{ISREDIT} \]

\[ \text{ISREDIT} \quad \text{TABSLINE} \quad = \quad \text{data} \quad \text{ISREDIT} \]

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

\[ \text{ISREDIT} \quad \text{TENTER} \quad \text{(ipter) \quad \text{numlines)} \quad = \quad \text{TENTER} \quad \text{ISREDIT} \]

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

```plaintext
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

```plaintext
ISREDIT (varname) = USER_STATE
```

```plaintext
ISREDIT USER_STATE = (varname)
```

Return codes

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

**VERSION—set or query version number**

Macro command syntax

```plaintext
ISREDIT VERSION num
```

Assignment statement syntax

```plaintext
ISREDIT (varname) = VERSION
```

```plaintext
ISREDIT VERSION = num
```
VIEW edit macro

**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**

```plaintext
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**

```plaintext
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**

```plaintext
ISREDIT (varname) = XSTATUS lptr
```
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 5. SCLM services and macros

This chapter shows the syntax and return codes for the SCLM services as well as the syntax for the SCLM macros. For a complete description of the services and macros see the “SCLM Reference” section in the z/OS ISPF Software Configuration and Library Manager Guide and Reference.

SCLM services

ACCTINFO—retrieve accounting information

Command invocation format

```plaintext
FLMCMD − ACCTINFO, project , .group , .type , .member
   , user_info_table , , include_table , , change_code_table
   , .pri_def
```

Call invocation format

```plaintext
lastrc := FLMLNK('ACCTINFO', sclm_id , .group , .type , .member , .user_info_table
   , .include_table , .change_code_table , .ada_cu_table
   , SEARCH

FORWARD
MATCH

$dd_msgs)
```

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.

- If FORWARD was specified then there are no accounting records for the group which match or follow the specified type and member name.
- If MATCH was specified then there is not an account record with the specified group, type and member name.
- If SEARCH was specified then there are no matching account records found when searching up the hierarchy starting from the specified group.
AUTHCODE service

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

\[ \text{FLMCMDCMD} \rightarrow \text{AUTHCODE, project, pri_def, group, type, member} \]

\[ , \text{from_authcode}, \text{to_authcode} \]

\[ , \text{dd_authmsgs}, \text{dd_authrept} \]

Call invocation format

\[ \text{lastrc} := \text{FLMLNK('AUTHCODE, sclm_id, group, type, member, from_authcode)} \]

\[ , \text{to_authcode}, \text{dd_authmsgs, dd_authrept}); }\]

Return codes

0 Normal completion. Authcode changed or reported successfully.

2 Normal completion. Authcode not changed. One of these 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.
Severe error condition. Accounting record not found or severe error.

Severe error condition. One of these 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.

Severe error condition. SCLM does not produce messages because the SCLM ID is not valid.

Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.

Severe error condition. SCLM does not produce messages for one of these 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, ,pri_def, ,group, ,type, ,member —

, userid, N, C, Y, Y, Y

, , prefix_userid, , , dd_bldmsgs, , dd_bldrept

, , , dd_bldlist, dd_bldexit
```
Call invocation format

```plaintext
```

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 these 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

```plaintext
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 these 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,ACCT,BMAP,IN,arch_group
        ,NO,NORMAL,EXTENDED,arch_type
        ,arch_member
        ,YES,YEES,NO
        ,dd_msgs,report_name,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.
Severe error condition. Messages are not produced.

**DELETE—delete database components**

**Command invocation format**

```
> FLMCMD — DELETE, project — , ,group — ,type — ,member — ,access_key —
```

**Call invocation format**

```
> lastrc := FLMLNK('DELETE⌂⌂', sclm_id — ,group — ,type — ,member — ,access_key —)
```

**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 these 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

```plaintext
- FLMCMD - DELGROUP, project, pri_def, group *, type *

- , member *, ACCT, REPORT

- , BMP, TEXT, EXECUTE

- , OUTPUT

- , dd_list, dd_msgs, dd_rept, dd_exit

- , Y, N, pack_days
```

Call invocation format

```plaintext
lastrc := FLMLNK('DELGROUP', sclm_id, group *, type *)

- , member *, ACCT, REPORT

- , BMP, TEXT, EXECUTE, 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.
Severe error condition. SCLM does not produce messages for one of these 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).

Severe error condition. An invalid service was requested.

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**

\[
\text{FLMCMD} \quad \text{DSALLOC, project, , , first_group, , , pri_def, , , A, P, total_groups, , , type, , , ddname, }\]

**Call invocation format**

\[
\text{lastrc := FLMLNK(‘DSALLOC’, sclm_id, first_group, , , A, P, total_groups, , , type, , , ddname, $msg_array); }\]

**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 these 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.
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, , pri_def, , group1, , group2

  , , group3, , group4, , type, , member, ,

  , , imac, , prof, ,

  , , authcode, , chgcode, , volser

  , dd_editmsgs ; ⟹
```

**Call invocation format**

```
  lastrc — := — FLMLNK('EDIT', sclm_id, , group1, , group2, , group3, , group4, , type —

  , member, ,

  , imac, , prof, ,

  , 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.
16 Verification error from a user exit routine.

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 SCLM Reference section in the z/OS ISPF Software Configuration and Library Manager Guide and Reference for information on initializing an SCLM services session.

32 Severe error condition. SCLM does not produce messages for one of these reasons:
   • You requested an invalid service.
   • You supplied an invalid parameter list for the requested service.
   • The version of FLMLNK subroutine does not match the version of the SCLM services module.

END—end an SCLM services session

Command invocation format
You cannot use command procedures to call this service.

Call invocation format

\[ \text{lastrc} := \text{FLMLNK('END\|\|\|\|\|', \text{appl_id}, \text{msg_line});} \]

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 these 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.
ENDEC—encode and decode members

Command invocation format

```
FLMCMD — ENDEC, project — , prj_def — , ENCODE

, in_ddname — , in_group — , in_type —

, in_member — , out_ddname — , out_group —

, out_type — , out_member — , msgdd —
```

Call invocation format

```
lastcc ::= FLMLNK('ENDEC',

, sclm_id — , ENCODE

, in_ddname —

, in_group — , in_type — , in_member —

, out_ddname — , out_group — , out_type —

, out_member —, $msg_array — );
```

Return codes

0
Normal completion. The encoding and decoding was performed.

4
Warning if ENCODE was specified, the input data set and member is already encoded. If DECODE was specified, the input data set and member is already decoded.

12
Error completion. Refer to the messages for more information.

EXPORT—extract SCLM accounting information for a group

Command invocation format

```
FLMCMD — EXPORT, project — , prj_def — , N

, dd_msgs — , dd_rept —
```
Call invocation format

```plaintext
lastrc := FLMLNK('EXPORT⌂⌂', sclm_id, group, Y, 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 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 these 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

```plaintext
lastrc := FLMLNK('FREE⌂⌂⌂⌂', sclm_id, msg_line);
```

Return codes

0
Normal completion.

FREE service

SCLM services and macros 199
GETBLDMP service

Error condition.

Severe error condition. Messages are not produced. SCLM services have not been initialized.

Severe error condition. Messages are not produced. One of these 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.

Severe error condition. An invalid service was requested.

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

\[ \text{FLMCMD} \rightarrow \text{GETBLDMP, project, group, type, member} \rightarrow \text{prj_def} \rightarrow \text{.bmap_table} \rightarrow \text{dd_msgs} \]

Call invocation format

\[ \text{lastrc} := \text{FLMLNK(‘GETBLDMP’, sclm_id, group, type, member, bmap_table} \rightarrow \text{.bmap_table} \rightarrow \text{$msg\_array));} \]

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.
GETXDEP—return cross-dependency information

Command invocation format

```plaintext
FLMCMDCMD GETXDEP, project, prj_def, group, type, member, xdep_table, scope, dd_msgs
```

Call invocation format

```plaintext
Lastrc := FLMLNK('GETXDEP', sclm_id, group, type, member, xdep_table, scope, $msg_array);
```

Return codes

4
The parent chain was truncated when the maximum nesting level was exceeded, or a circular reference was detected. ZSFLIMIT is non-blank on truncated rows.

8
No parent data was found.

12
Cross-dependency database is not active.

16
Error updating ISPF table.

20
Error reading the Cross-dependency database.

IMPORT—import SCLM accounting information to current project

Command invocation format

```plaintext
FLMCMDCMD IMPORT, project, prj_def, group, authcode, change_code, userid, C U R, dd_msgs, dd_rept
```

SCLM services and macros 201
Call invocation format

```plaintext
lastrc := FLMLNK('IMPORT', sclm_id, group, authcode,
change_code, userid, C, 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 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 these 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**

```plaintext
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 these 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, group, type, member, prj_def

Call invocation format

lastrc := FLMLNK('LOCK⌂⌂⌂⌂', sclm_id, group, type, member, authcode, access_key, userid, found_group)

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 these 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, pri_def, group, type, member, authcode, language, change_code,
        dd_migmsgs, dd_miglist, dd_migrept
```

Call invocation format

```
> lastrc=FLMLNK('MIGRATE', sclm_id, group, type, member, authcode, language,
               change_code, 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 these 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**

```plaintext
$FLMCMDFLMTXTCMD 'NEXTGRP', [project], [prj_def], [group], [dd_msgs]
```

**Call invocation format**

```plaintext
$LASTRC := FLMNKF('NEXTGRP', [sclm_id], [group], [dd_msgs]);
```

**Return codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion. NEXTGRP completed successfully. Variables are set.</td>
</tr>
<tr>
<td>4</td>
<td>Warning condition. The group is already the top group. No variables are set.</td>
</tr>
<tr>
<td>8</td>
<td>Error condition. Invalid project, prj_def, or group name.</td>
</tr>
<tr>
<td>12</td>
<td>Severe error condition. SCLM might not produce messages because there was an error invoking the NEXTGRP module. For certain conditions messages are available.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error condition. Messages are not produced. Invalid SCLM ID.</td>
</tr>
<tr>
<td>24</td>
<td>Severe error condition. Messages are not produced. SCLM services have not been initialized.</td>
</tr>
</tbody>
</table>
| 32   | Severe error condition. Messages are not produced. One of these 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**

```plaintext
$LASTRC := FLMNKF('PARSE', [sclm_id], [group], [type], [member], [language], [Y N], [ddname], [stats_info], [list_info], [msg_array]);
```

**Return codes**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
</tbody>
</table>
**PROMOTE service**

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 these 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**

\[
\text{FLMCMMD} \rightarrow \text{PROMOTE}, \text{project}, \text{pri_def}, \text{group}, \text{type}, \text{member}, \text{userid}, \text{dd_prommsgs}, \text{dd_promrept}, \text{dd_promexit}, \text{dd_copyerr} \]

**Call invocation format**

\[
\text{lstrc} := \text{FLMLNK('PROMOTE', scim_id, group, type, member, userid, 'F', dd_prommsgs, dd_promrept, dd_promexit, dd_copyerr);}
\]

**Return codes**

0 Normal completion.

4 Warning condition.
Error condition.

Severe error condition. Messages are not produced. Error invoking the Promote module.

Severe error condition. Messages are not produced. Unable to retrieve SCLM ID information.

Severe error condition. Messages are not produced. Invalid SCLM ID.

Severe error condition. Messages are not produced. SCLM services have not been initialized.

Severe error condition. Messages are not produced. One of these 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.

Severe error condition. An invalid service was requested.

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
```

**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}

, ddname — , {C U}

, change_code — {C U}

, subproject
```

Call invocation format

```
lastrc — := — FLMLNK('SAVE', sclm_id — , group, type, member — , authcode, access_key —

, userid — , language — , {Y N}

, ddname — , {C U}

, {C U}

, 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 these 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.
SCLMINFO—return project information

Command invocation format

```sql
FLMCMDSCLMINFO, project, pri_def
```

Call invocation format

```sql
lastrc := FLMLNK('SCLMINFO', sclm_id);
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>12</td>
<td>Error condition.</td>
</tr>
</tbody>
</table>

START—generate an application ID for a service session

Command invocation format

You cannot use command procedures to call this service.

Call invocation format

```sql
lastrc := FLMLNK('START', appl_id);
```

Return codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Normal completion.</td>
</tr>
<tr>
<td>12</td>
<td>Severe error condition. The maximum application ID limit was exceeded.</td>
</tr>
<tr>
<td>16</td>
<td>Severe error condition. An invalid version of the SCLM table was loaded.</td>
</tr>
<tr>
<td>20</td>
<td>Severe error condition. An invalid version of the multicultural support table was loaded.</td>
</tr>
<tr>
<td>24</td>
<td>Severe error condition. Unable to load the SCLM table.</td>
</tr>
<tr>
<td>28</td>
<td>Severe error condition. Unable to load the multicultural support table or the SCLM I/O load module.</td>
</tr>
</tbody>
</table>
| 32   | Severe error condition. Messages are not produced. One of these 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 service

STORE—store member information in an accounting record

Command invocation format
You cannot use command procedures to call this service.

Call invocation format
\[
lastrc := \text{FLMLNK('STORE⌂⌂⌂'} sclm_id, group, type, member, access_key, language \text{⌂};
\]

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 these 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
\[
\text{FLMCMMD} \quad \text{UNLOCK, project, group, type, member, prj_def, access_key \text{⌂};}
\]

Call invocation format
\[
lastrc := \text{FLMLNK('UNLOCK⌂⌂⌂'} sclm_id, group, type, member, access_key, $msg_array \text{⌂});
\]
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 these 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

\[
\text{FLMCMND} ---- \\text{VERDEL, project} ---- , \quad \text{prj_def} \quad \text{group} ---- , \text{type} ---- , \text{member} ---- , \text{date} \quad \text{time} \quad , \quad \text{dd_msgs} \quad , \quad \text{longdate} \quad \]

Call invocation format

\[
\text{lastrc} \quad := \quad \text{FLMLNK('VERDEL \quad \text{'}}, \quad \text{scm_id}, \quad \text{group} ---- , \text{type} ---- , \text{member} ---- , \text{date} ---- , \text{time} \quad , \quad \text{$msg\_array} \quad , \quad \text{longdate} \quad ) \quad ; \quad \]

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.

VERHIST—Retrieve Versioned Member Information

Command invocation format

```
FLMCMC VERHIST, project — , ,pri_def , ,group — ,type — ,member — ,date —
```

```
, ,time — ,dd_report —, Y N , dd_msgs , ,longdate
```

Call invocation format

```
lastrc := FLMLNK('VERHIST⌂', sclm_id, ,group — ,type — ,member — ,date — ,time —
```

```
, ,dd_report —, Y N ,$msg_array , ,longdate
```

Return codes

Additional special services messages are written to the FLMMSGs ddname. See the “SCLM service messages” section in z/OS ISPF Software Configuration and Library Manager Guide and Reference for more information.

Other return codes might be produced by the FLMCMD or the FLMLNK processor. See the “SCLM service return codes” section in z/OS ISPF Software Configuration and Library Manager Guide and Reference for more information.

Possible return codes are:

0
Normal completion. An audit record exactly matching the specified criteria was found and the version report was stored successfully.

8
Error completion. No audit record was found for the specified member.

12
Error completion. Refer to the messages for more information.
VERINFO—retrieve version information

Command invocation format

```plaintext
FLMCMD — VERINFO,
         project — ,
         .pri_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

```plaintext
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.
VERRECOV 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

```plaintext
FLMCMDC — VERRECOV, project — — , group — — , member — — , date — — , time — — , 
prj_def — — , to_dataset — — , to_group — — , to_type — — , authcode — — , dd_msgs — — , 
longdate — —
```

Call invocation format

```plaintext
latexc := FLMLNK('VERRECOV', sclm_id — — , group — — , type — — , member — — , date — — , time — — , 
prj_def — — , 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.
XDEPUPDT—Update Cross-dependency Information

Command invocation format

\[
\text{FLMCMOD} \rightarrow \text{XDEPUPDT, } \text{project, } \text{prj_def, } *, \text{group, } \text{dd_xdeprept}
\]

Call invocation format

\[
\text{Lastrc} \rightarrow \text{FLMLNK('XDEPUPDT', sclm_id, *group, $msg_array)}
\]

SCLM macros

FLMABEG—define the project name of the project definition

Macro format

\[
\text{name} \rightarrow \text{FLMABEG, LOC=} \text{BELOW, ABOVE}
\]

FLMAEND—last macro in the project definition

Macro format

\[
\text{FLMAEND} \rightarrow
\]

FLMAGRP—define a group of authorization codes

Macro format

\[
\text{name} \rightarrow \text{FLMAGRP, AC=} \text{code}
\]
FLMALLOC macro

FLMALLOC—define each DDname in the DDname substitution list for a translator

Macro format

```
  FLMALLOC  --- IOTYPE=
               H
               I
               L
               N
               O
               P
               S
               U
               W
               ,BLKSIZE= block_size
               ,DDNAME= ddname
               ,CATLG=
               ,Y
               ,DDNAME= ddname
               ,DFLTMEM= default_member
               ,DFLTTYP= default_type
               ,DINIT=
               ,Y
               ,DIRBLKS= directory_blocks
               ,DISP=
               ,OLD
               ,SHR
               ,MOD
               ,NEW
               ,INCLS= include_set_name
               ,KEYREF= keyword_reference
               ,LANG= language
               ,LRECL= record_length
               ,MALLOC=
               ,Y
               ,ALLCDEL=
               ,Y
               ,MEMBER= member_name
               ,NOSAVRC= no_save_rc
               ,PATHOPT= uss_path_options
               ,PATHMDE= uss_path_mode
               ,PATHDSP= uss_path_disposition
               ,FILEDAT= uss_file_data
```
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

,XDEP= xdep_data_set

FLMATVER—enable the audit and version utility

Macro format

FLMATVER — GROUP= group
,TYPE= type

,SEQNUM= STANDARD
,VERS= YES

,VERCOUNT= number_to_retain
,CHECKSUM= YES
FLMCNTRL—specify project-specific control options

Macro format

```
FLMCNTRL
  ACCT= 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
  VERSZ= secondary_audit_control_data_set
  VSAMRLS= YES
  VERPDS= version_pds_name
  VERCOUNT= number_to_retain
  DNAME= dataset_name_pattern
  DASMUNIT= SYSALLDA
  DASMUNIT= DASD_unit_name
  VIOUNIT= VIO_unit_name
  MAXLINE= 60
  MAXLINE= max_line_count
  MAXVIO= 5000
  MAXVIO= max_vio_count
  OPTOVER= N
  OPTOVER= Y
  MEMLOCK= N
  MEMLOCK= Y
  CONTROL= control_data_set
  ADMINID= administrator_userid
  VERCC= change_code_routine
  VERCCDS= change_code_dataset
```
FLMCNTRL macro

VERCCM=
  \VERCCOP= change_code_options
  LINK
  ATTACH
  TSOLNK
  ISPLNK

CCVFY= initial_change_code_exit_routine
CCVFYDS= initial_change_code_exit_dataset

CCVFYCM=
  \CCVFYOP= initial_change_code_exit_options
  LINK
  ATTACH
  TSOLNK
  ISPLNK

CCSAVE= save_change_code_exit_routine
CCSAVDS= save_change_code_exit_dataset
CCSAVCM=
  \CCSAVOP= save_change_code_exit_options
  LINK
  ATTACH
  TSOLNK
  ISPLNK

AVDVFY= verify_audit_version_delete_exit_routine
AVDVFYDS= verify_audit_version_delete_exit_dataset

AVDVFYCM=
FLMCNTRL macro

,PRMCPYDS= promote_copy_user_exit_dataset

,PRMCPYCM=

,PRMCPYOP= promote_copy_user_exit_options

,PRMPURGE= promote_purge_user_exit_routine

,PRMPRGDS= promote_purge_user_exit_dataset

,PRMPRGCM=

,PRMPRGOP= promote_purge_user_exit_options

,DELINIT= initial_delete_exit_routine

,DELINIDS= initial_delete_exit_dataset

,DELINICM=

,DELINIOP= initial_delete_exit_options

,DELVFY= verify_delete_exit_routine
FLMCPYLB—identify additional data sets to be concatenated to a DDname

Macro format

```
FLMCPYLB
  dataset_name
  pathname
  NULLFILE
  ,VOL=volser
```

FLMGROUP—define one group in the project definition

Macro format

```
name FLMGROUP AC=(code)
  ,ALTC=group_control_options
  ,BKGRP=group_name
  ,BKMBRLVL=Y
  ,KEY=Y
  ,PROMOTE=next_group
```
FLMINCLS—associate include-sets with types in the project hierarchy

Macro format

\[ name \rightarrow \text{FLMINCLS} \]

\[ \text{SAMEAS} = \text{flmincls_name}, \]
\[ \text{TYPES} = (\text{list_of_types}), \]
\[ \text{CROSLANG} = \begin{cases} Y & \text{Y} \\ N & \text{N} \end{cases} \]

FLMLANGL—define a language to SCLM

Macro format

\[ \text{FLMLANGL} \rightarrow \text{LANG} = \text{language} \]

\[ \text{ALCSYSLIB} = \begin{cases} N & \text{N} \\ Y & \text{Y} \end{cases} \]
\[ \text{ARCH} = \begin{cases} N & \text{N} \\ Y & \text{Y} \end{cases} \]
\[ \text{BUFSIZE} = \text{buffer_size} \]
\[ \text{CANEDIT} = \begin{cases} Y & \text{Y} \\ N & \text{N} \end{cases} \]
\[ \text{CHKSYSLIB} = \begin{cases} \text{PARSE} & \text{PARSE} \\ \text{BUILD} & \text{BUILD} \\ \text{IGNORE} & \text{IGNORE} \end{cases} \]
\[ \text{COMPOOL} = \begin{cases} N & \text{N} \\ Y & \text{Y} \end{cases} \]
\[ \text{DEPPRCS} = \begin{cases} Y & \text{Y} \\ N & \text{N} \end{cases} \]
\[ \text{DFLTCRF} = \text{default_CREF_reference} \]
\[ \text{DFLTSRF} = \text{default_source_reference} \]
\[ \text{SCOPE} = \begin{cases} \text{NORMAL} & \text{NORMAL} \\ \text{LIMITED} & \text{LIMITED} \\ \text{SUBUNIT} & \text{SUBUNIT} \\ \text{EXTENDED} & \text{EXTENDED} \end{cases} \]
\[ \text{VERSION} = \text{language_version} \]
\[ \text{LANGDESC} = \text{language_description} \]
\[ \text{MBRLMT} = 0 \]
\[ \text{ENCODE} = \begin{cases} N & \text{N} \\ Y & \text{Y} \end{cases} \]
FLMLRBLD—rebuild members with a particular language after promotion

Macro format

```
\texttt{FLMLRBLD} \hspace{1em} \texttt{GROUP=} \texttt{group\_list}
```

FLMPROJ—define a subproject to an SCLM project/alternate

Macro format

```
\texttt{name} \hspace{1em} \texttt{FLMPROJ} \hspace{1em} \texttt{subproj\_desc}
```

FLMNPRM—specify which SCLM editable elements may or may not be marked as non-promotable

Macro format

```
\texttt{FLMNPRM} \hspace{1em} \texttt{GROUP=} \hspace{1em} \texttt{GROUP=} \texttt{(group)} \hspace{1em} \texttt{*,} \hspace{1em} \texttt{TYPE=} \hspace{1em} \texttt{TYPE=} \texttt{(type)} \hspace{1em} \texttt{*,} \hspace{1em} \texttt{LANG=} \hspace{1em} \texttt{LANG=} \texttt{(lang)} \hspace{1em} \texttt{*,} \hspace{1em} \texttt{NPROM=} \hspace{1em} \texttt{NPROM=} \texttt{YES} \texttt{NO}
```

FLMSYSLB—define a set of data sets for a language containing project macros or included members

Macro format

```
\texttt{FLMSYSLB} \hspace{1em} \texttt{dataset\_name} \hspace{1em} \texttt{,INCLS=} \texttt{include\_set\_name} \hspace{1em} \texttt{,VOL=} \texttt{volser}
```
FLMTCOND macro

FLMTCOND—select build translators based on group and return codes

Macro format

```
FLMTCOND
    GROUP= group_list
    NOTGROUP= group_list
    WHEN= relations_list
    ,ACTION= RUN
```

FLMTOPTS—select the options based on group

Macro format

```
FLMTOPTS
    OPTIONS= options_list
    GROUP= group_list
    NOTGROUP= group_list
    ,ACTION= APPEND
```

z/OS: ISPF Reference Summary
FLMTRNSL—define once for each translator to be invoked for a language

Macro format

```
FLMTRNSL CALLNAM='call_name'

,COMPILE= translator_name

,FUNCTN=
  PARSE
  VERIFY
  BUILD
  COPY
  PURGE

,DSNAME= translator_dataset_name

,GOODRC= good_return_code

,NOSVEXT= no_save_external_rc

,OPTFLAG= Y N

,OPTIONS= option_list

,PARMKWD= parameter_keyword

,PDSDATA= N Y

,PORDER= 1

,VERSION= translator_version

,CALLMETH= ATTACH LINK TSOLNK ISPLINK

,TASKLIB= translator_ddname

,INPLIST= N Y

,MBRRC= maximum_good_return_code
```

Note: See the "SCLM Reference" section in the z/OS ISPF Software Configuration and Library Manager Guide and Reference for information about the two translators FLMTPRE and FLMTPS.
FLMTYPE—define one FLMTYPE in the project definition

Macro format

```
name  FLMTYPE
     EXTEND= extended_type
     ,BACKUP= Y
     ,ISAPACK= N
     ,PACKFILE= N
     ,REUSEDAY= number_of_days
```
Chapter 6. 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:

- **func**: Function pool
- **shr**: Shared pool
- **prof**: Profile pool
- **any**: Any pool.

The third column indicates the variable's type. The following abbreviations are used:

- **in**: Input variable, set by a dialog to provide information to ISPF
- **out**: Output variable, set by ISPF to provide information to dialogs
- **non**: Non-modifiable output variable
- **i/o**: 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

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCFGCMPD</td>
<td>shr</td>
<td>non</td>
<td>10</td>
<td>Current Configuration module compilation date. ZCFGCMPD 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.</td>
</tr>
</tbody>
</table>
Table 2. System variables: Configuration utility (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCFGCMPT</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>Current Configuration module compilation 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. <strong>Note:</strong> This field will be blank for a configuration module compiled with a previous version of ISPF.</td>
</tr>
<tr>
<td>ZCFGKSRC</td>
<td>shr</td>
<td>non</td>
<td>54</td>
<td>Keyword source data set and member for the current configuration module. <strong>Note:</strong> This field will be blank for a configuration module compiled with a previous version of ISPF.</td>
</tr>
<tr>
<td>ZCFGLVL</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>Current Configuration module level.</td>
</tr>
<tr>
<td>ZCFGMOD</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>Current Configuration module name.</td>
</tr>
</tbody>
</table>

Time and date

Table 3. System variables: Time and date

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZDATE</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>Current date. The format of ZDATE depends on the current national language (see ZDATEF and ZDATEFD).</td>
</tr>
<tr>
<td>ZDATEF</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>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.</td>
</tr>
<tr>
<td>ZDATEFD</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>The date format as described under ZDATEF but with the national language convention instead of DD, MM, and YY.</td>
</tr>
<tr>
<td>ZDATESTD</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>Current date with a 4-digit year (YYYY/MM/DD). The format of ZDATESTD depends on the current national language (see ZDATEF and ZDATEFD).</td>
</tr>
<tr>
<td>ZDAYOFWK</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>The name of the day of the week.</td>
</tr>
<tr>
<td>ZDAY</td>
<td>shr</td>
<td>non</td>
<td>2</td>
<td>Day of month (2 characters)</td>
</tr>
<tr>
<td>Z3DATE</td>
<td>shr</td>
<td>non</td>
<td>6</td>
<td>Day-of-year date (format yy.ddd)</td>
</tr>
<tr>
<td>Z34DATE</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>Day-of-year date (format yyyy.ddd)</td>
</tr>
<tr>
<td>ZMONTH</td>
<td>shr</td>
<td>non</td>
<td>2</td>
<td>Month of year (2 characters)</td>
</tr>
<tr>
<td>ZSTDYEAR</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>All 4 digits of the current year (4 characters).</td>
</tr>
<tr>
<td>ZTIME</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>Time of day (format hh:mm)</td>
</tr>
<tr>
<td>ZTIMEL</td>
<td>shr</td>
<td>non</td>
<td></td>
<td>Time of day (format hh:mm:ss:TQ —where T is tenths of a second, and Q is hundredths)</td>
</tr>
<tr>
<td>ZYEAR</td>
<td>shr</td>
<td>non</td>
<td>2</td>
<td>Year (2 characters)</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>shr</td>
<td>non</td>
<td>0</td>
<td>Null Variable</td>
</tr>
<tr>
<td>ZACCTNUM</td>
<td>shr</td>
<td>non</td>
<td>40</td>
<td>The MVS account number specified at logon time.</td>
</tr>
<tr>
<td>ZAPLCNT</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Number of times APL invoked for a logical screen</td>
</tr>
<tr>
<td>ZAPPLID</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>Application identifier</td>
</tr>
<tr>
<td>ZAPPTTL</td>
<td>any</td>
<td>in</td>
<td>N/A</td>
<td>When running in GUI mode, the title to be displayed in the window frame.</td>
</tr>
<tr>
<td>ZBDMAX</td>
<td>shr</td>
<td>i/o</td>
<td>9</td>
<td>Maximum number of displays that can occur within a batch mode session.</td>
</tr>
<tr>
<td>ZBDMXCNT</td>
<td>shr</td>
<td>non</td>
<td>9</td>
<td>Count of current number of displays in a batch mode session</td>
</tr>
<tr>
<td>ZCLIENT</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>If ISPF is communicating with a client using JSON data structures ZCLIENT will be set to a value of JSON.</td>
</tr>
<tr>
<td>ZCS</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>Multicultural support currency symbol</td>
</tr>
<tr>
<td>ZCSDLL</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>File name of the DLL required for this level of code for the Client/Server</td>
</tr>
<tr>
<td>ZDECS</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>Multicultural support decimal separator character</td>
</tr>
<tr>
<td>ZDEL</td>
<td>prof</td>
<td>non</td>
<td>1</td>
<td>The delimiter is used to separate stacked commands. The default delimiter is a semicolon (;).</td>
</tr>
<tr>
<td>ZEDLMMSG</td>
<td>shr</td>
<td>in</td>
<td>79</td>
<td>Available for an edit macro to set the long message for the next display.</td>
</tr>
<tr>
<td>ZEDSMMSG</td>
<td>shr</td>
<td>in</td>
<td>24</td>
<td>Available for an edit macro to set the short message for the next display.</td>
</tr>
<tr>
<td>ZENTKTXT</td>
<td>any</td>
<td>in</td>
<td>12</td>
<td>When you are running in GUI mode, the name that appears on the Enter key push button.</td>
</tr>
<tr>
<td>Name</td>
<td>Pool</td>
<td>Type</td>
<td>Len</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ZENVIR</td>
<td>shr</td>
<td>non</td>
<td>32</td>
<td>Environment description:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Characters 1 to 8 contain the product name and sequence number, in the form ISPF x.y. The sequence number x.y has this meaning:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.4 means ISPF for z/OS Version 2 Release 4.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.3 means ISPF for z/OS Version 2 Release 3.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.2 means ISPF for z/OS Version 2 Release 2.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7.1 means ISPF for z/OS Version 2 Release 1.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Note:</strong> See also the system variables ZISPFOS and ZOS390RL.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Characters 9 to 16 contain the generic operating system name (MVS).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Characters 17 to 24 contain the operating system environment (TSO or BATCH).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Characters 25 to 32 contain blanks and are reserved.</td>
</tr>
<tr>
<td>ZEURO</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>The EURO currency symbol.</td>
</tr>
<tr>
<td>ZGUI</td>
<td>shr</td>
<td>non</td>
<td>68</td>
<td>Workstation address or name (in character format) if ISPSTART is issued with the GUI parameter or if specified on the Settings GUI invocation panel. If ISPF is invoked by a client ZGUI will be set to a value of CLIENT. Otherwise ZGUI will be set to blank if ISPSTART is issued without the GUI parameter or if GUI is not invoked from the Settings panel.</td>
</tr>
<tr>
<td>ZINICMD</td>
<td>shr</td>
<td>in</td>
<td>1</td>
<td>Set the value of ZINICMD to Y in the PROC section of the primary menu to indicate that, in the initial invocation of the menu, a command has been put in the value of the ZSEL variable.</td>
</tr>
<tr>
<td>ZISPFOS</td>
<td>shr</td>
<td>non</td>
<td>30</td>
<td>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.</td>
</tr>
<tr>
<td>ZISPFRC</td>
<td>shr</td>
<td>in</td>
<td>8</td>
<td>Return code from ISPSTART-selected dialog to invoking application.</td>
</tr>
<tr>
<td>ZKEYHELP</td>
<td>any</td>
<td>in</td>
<td>8</td>
<td>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.</td>
</tr>
<tr>
<td>ZLANG</td>
<td>prof</td>
<td>non</td>
<td>8</td>
<td>Session language</td>
</tr>
<tr>
<td>ZLOGO</td>
<td>shr</td>
<td>non</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>ZLOGON</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>Stepname of TSO logon procedure</td>
</tr>
<tr>
<td>ZNESTMAC</td>
<td>any</td>
<td>in</td>
<td>2</td>
<td>When set to a value of NO, REXX and CLIST edit macros are not invoked as nested commands, even when the NESTMACS parameter is specified on the ISPSTART command.</td>
</tr>
<tr>
<td>ZMLPS</td>
<td>shr</td>
<td>non</td>
<td>3</td>
<td>Indicates whether the ISPF Profile Sharing feature is active. ZMLPS has a value of either YES or NO.</td>
</tr>
<tr>
<td>ZOS390RL</td>
<td>shr</td>
<td>non</td>
<td>16</td>
<td>Indicates the z/OS release running on your system.</td>
</tr>
<tr>
<td>ZPANELID</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>The name of the currently displayed panel.</td>
</tr>
<tr>
<td>Name</td>
<td>Pool</td>
<td>Type</td>
<td>Len</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ZPFKEY</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>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.</td>
</tr>
<tr>
<td>ZPLACE</td>
<td>prof</td>
<td>i/o</td>
<td>7</td>
<td>Command line placement (ASIS or BOTTOM)</td>
</tr>
<tr>
<td>ZPREFIX</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>TSO user prefix</td>
</tr>
<tr>
<td>ZPROFAPP</td>
<td>prof</td>
<td>in</td>
<td>8</td>
<td>Name of application profile pool extension table</td>
</tr>
<tr>
<td>ZSRRNAME</td>
<td>shr</td>
<td>non</td>
<td>?</td>
<td>Logical screen data. Size depends upon your screen size.</td>
</tr>
<tr>
<td>ZSCRCUR</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Displays the number of logical screens currently in use.</td>
</tr>
<tr>
<td>ZSCREENC</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>Cursor position within the logical screen data.</td>
</tr>
<tr>
<td>ZSCREENI</td>
<td>shr</td>
<td>non</td>
<td>?</td>
<td>Logical screen data. Size depends upon your screen size.</td>
</tr>
<tr>
<td>ZSCRNAME</td>
<td>shr</td>
<td>in</td>
<td>8</td>
<td>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.</td>
</tr>
<tr>
<td>ZSCRMAX</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Displays the number of logical screens allowed by the installation.</td>
</tr>
<tr>
<td>ZSCTPREF</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>First site command table prefix</td>
</tr>
<tr>
<td>ZSCTPRE2</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Second site command table prefix</td>
</tr>
<tr>
<td>ZSCTPRE3</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Third site command table prefix</td>
</tr>
<tr>
<td>ZSCTSRCH</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>Search order for site command tables relative to system command table. Set to either B (Before ISP) or A (After ISP).</td>
</tr>
<tr>
<td>ZSEQ</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>Unique number within the sysplex.</td>
</tr>
<tr>
<td>ZSM</td>
<td>shr</td>
<td>i/o</td>
<td>3</td>
<td>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.</td>
</tr>
<tr>
<td>ZSTART</td>
<td>prof</td>
<td>in</td>
<td>N/A</td>
<td>Default command stack variable. See topic &quot;Syntax for issuing the ISPSTART command&quot; in z/OS ISPF Dialog Developer’s Guide and Reference for format and use.</td>
</tr>
</tbody>
</table>
### Table 4. General variables (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZSTARTPR | prof | non  | 1   | The value of ZSTARTPR can be checked in the panel processing sections of the primary menu to determine if ISPF is processing an initial stack provided in a variable specified on the ISPF command. The following values are possible:  
  - **N**: Processing of the commands in the initial command stack is completed.  
  - **I**: An initial command stack was provided in a variable specified on the ISPF command. This is the initial invocation of the primary menu and the value of ZCMD is either 'ZSTART DEFAULT' or the name of a variable containing the initial command stack.  
  - **Y**: The commands in the initial command stack are currently being processed.  
  - **S**: No initial command stack was provided in a variable specified on the ISPF command.                                                                                                                                       |
| ZSYSICON | shr  | non  | 8   | The 8-character variable that contains the command to be executed when the system icon is double-clicked or close 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 z/OS MVS Initialization and Tuning Reference for more information.                                                                                       |
| ZSYSNODE | shr  | non  | 12  | 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.  
  - If the system finds that the subsystem is not active, the ZSYSNODE variable contains the string **--INACTIVE--** (note the string delimiters).  
  - 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).  
  - The value in ZSYSNODE remains the same throughout the ISPF session.  
  - **Note**: 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.|
| ZSYSPLEX | shr  | non  | 8   | The MVS sysplex name as found in the COUPLEExx 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                                                                                                                                                                                                                                                                                               |
Table 4. General variables (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZTERMCID</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>CCSD coded character set identifier of the terminal. Set by ISPF based on</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>the code page and character set of the terminal. If the terminal code</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>page and character set cannot be queried or if they are not supported by</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ISPF, this variable will be blank.</td>
</tr>
<tr>
<td>ZTERMCP</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>CECP support 4-digit code page.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Note:</strong> ZTERMCS is defined as character length 4. It cannot handle 5-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>character character sets. For example, the character set 65535 is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>displayed in ZTERMCS as &quot;5535&quot;. This does not mean that ISPF has</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>defined character set 5535 (X'159F'). Two other Z variables, ZTERMCS5 and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZTERMCP5, for character set and code page respectively, were created to</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>handle 5-character character sets and code pages. For example, the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>character set 65535 is displayed in ZTERMCP5 as 65535.</td>
</tr>
<tr>
<td>ZTERMCP5</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>CECP support 5-digit code page.</td>
</tr>
<tr>
<td>ZTERMCS5</td>
<td>shr</td>
<td>non</td>
<td>5</td>
<td>CECP support 5-character set</td>
</tr>
<tr>
<td>ZTERMCS</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>CECP support 4-digit character set</td>
</tr>
<tr>
<td>ZTHS</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>Multicultural support thousands separator character</td>
</tr>
<tr>
<td>ZTS</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>Multicultural support time separator character</td>
</tr>
<tr>
<td>ZTSICMD</td>
<td>shr</td>
<td>non</td>
<td>32767</td>
<td>The entire initial invocation command string which invoked the ISPF</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>environment. If storage cannot be obtained at startup, only the first 50</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>characters will be saved. The maximum length is 32767.</td>
</tr>
<tr>
<td>ZTSSCMD</td>
<td>shr</td>
<td>non</td>
<td>32767</td>
<td>SELECT portion of the initial invocation command. The maximum length is</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>32767.</td>
</tr>
<tr>
<td>ZUCTPREF</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>First user command table name</td>
</tr>
<tr>
<td>ZUCTPRE2</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Second user command table name</td>
</tr>
<tr>
<td>ZUCTPRE3</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Third user command table name</td>
</tr>
<tr>
<td>ZUSER</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>User ID</td>
</tr>
<tr>
<td>ZVERB</td>
<td>shr</td>
<td>out</td>
<td>8</td>
<td>Command verb after a SETVERB command table action</td>
</tr>
<tr>
<td>ZWINNNTL</td>
<td>any</td>
<td>in</td>
<td>N/A</td>
<td>Title to be displayed in pop-up window frame</td>
</tr>
<tr>
<td>ZWSCDPPG</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>When running in GUI mode, the code page of the workstation. When not</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>running in GUI mode, value will be blank.</td>
</tr>
<tr>
<td>ZWSCON</td>
<td>shr</td>
<td>non</td>
<td>68</td>
<td>TCP/IP or APPC address when ISPF session is connected to a workstation.</td>
</tr>
<tr>
<td>ZWSOPSYS</td>
<td>shr</td>
<td>non</td>
<td>16</td>
<td>Operating system of workstation to which the session is connected. The</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>first 10 characters are the operating system name, followed by a blank,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>followed by two 2-digit numbers separated by a blank. These numbers are</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>returned to ISPF from the operating system and change by version and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>release.</td>
</tr>
</tbody>
</table>

Terminal and function keys
### Table 5. System variables: Terminal and function keys

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCOLORS</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Number of colors supported by the terminal type (either 1 or 7)</td>
</tr>
<tr>
<td>ZDBCS</td>
<td>shr</td>
<td>non</td>
<td>3</td>
<td>DBCS terminal capability (YES or NO)</td>
</tr>
<tr>
<td>ZFKA</td>
<td>prof</td>
<td>non</td>
<td>8</td>
<td>Current state of the function key area form (LONG, SHORT, OFF (no display))</td>
</tr>
<tr>
<td>ZGE</td>
<td>shr</td>
<td>non</td>
<td>3</td>
<td>Terminal support for graphic escape order:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>YES</strong> graphic escape is supported</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>NO</strong> graphic escape is not supported</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Note:</strong> If you are running in GUI mode, ZGE will be set to NO.</td>
</tr>
<tr>
<td>ZHILITE</td>
<td>shr</td>
<td>non</td>
<td>3</td>
<td>Extended highlighting availability (YES or NO)</td>
</tr>
<tr>
<td>ZIPADDR</td>
<td>shr</td>
<td>non</td>
<td>15</td>
<td>TCP/IP address of the currently connected TN3270 workstation. Entering the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>TERMSTAT QUERY option of the ENVIRON command will refresh the value.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(Contains FFF.FFF.FFF.FFF on IPV6 systems.)</td>
</tr>
<tr>
<td>ZIPADDR6</td>
<td>shr</td>
<td>non</td>
<td>39</td>
<td>IPV6 address of the currently connected TN3270 workstation. Contains blanks</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>on IPV4 systems. Entering the TERMSTAT QUERY option of the ENVIRON command</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>will refresh the value.</td>
</tr>
<tr>
<td>ZIPPORT</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>TCP/IP port number of the currently connected TN3270 workstation. Entering</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>the TERMSTAT QUERY option of the ENVIRON command will refresh the value.</td>
</tr>
<tr>
<td>ZLUNAME</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>VTAM® LU name of the current TSO session. Entering a TERMSTAT QUERY command</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>will refresh the value.</td>
</tr>
<tr>
<td>ZKEYS</td>
<td>prof</td>
<td>out</td>
<td>4</td>
<td>Number of Function keys</td>
</tr>
<tr>
<td>ZKLAPPL</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>If KEYLIST is ON and it is a panel with the )PANEL statement, this contains</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>the application id where the current keylist came from.</td>
</tr>
<tr>
<td>ZKLNAME</td>
<td>shr</td>
<td>non</td>
<td>8</td>
<td>If KEYLIST is ON and it is a panel with the )PANEL statement, this contains</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>the name of the current keylist.</td>
</tr>
<tr>
<td>ZKLTYP</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>If KEYLIST is ON and it is a panel with the )PANEL statement, this contains</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>either P (for Private) or S (for Shared) for the current keylist.</td>
</tr>
<tr>
<td>ZKLUSE</td>
<td>prof</td>
<td>i/o</td>
<td>1</td>
<td>If KEYLIST is ON this contains Y, if it is OFF, it contains an N.</td>
</tr>
<tr>
<td>ZPFCTL</td>
<td>prof</td>
<td>i/o</td>
<td>5</td>
<td>User authorization to use PFSHOW command</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• USER—User controls function key display with PFSHOW command</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• ON—Display function key definitions on all panels</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• OFF—Do not display function key definitions</td>
</tr>
<tr>
<td>ZPFFMT</td>
<td>prof</td>
<td>i/o</td>
<td>4</td>
<td>Number of Function key definitions displayed per line</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• SIX—Always display six keys per line</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• MAX—Display as many keys as will fit on each line</td>
</tr>
<tr>
<td>Name</td>
<td>Pool</td>
<td>Type</td>
<td>Len</td>
<td>Description</td>
</tr>
<tr>
<td>---------</td>
<td>------</td>
<td>------</td>
<td>-----</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>ZPFSET</td>
<td>prof</td>
<td>i/o</td>
<td>4</td>
<td>Function key definition set displayed</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• PRI—Primary set (1-12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• ALT—Alternate set (13-24)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• ALL—All keys (1-24)</td>
</tr>
<tr>
<td>ZPFSHOW</td>
<td>prof</td>
<td>out</td>
<td>4</td>
<td>PFSHOW command status</td>
</tr>
<tr>
<td>ZPFPxx</td>
<td>prof</td>
<td>i/o</td>
<td>255</td>
<td>Setting for Function keys:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZPF13-ZPF24 contain settings for the primary keys (for 12-key terminals:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>physical keys 1-12; for 24-key terminals: physical keys 13-24)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZPF01-ZPF12 contain settings for the alternate keys (for 24-key terminals:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>only: physical keys 1-12)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>The maximum length is 255.</td>
</tr>
<tr>
<td>ZPFLxx</td>
<td>prof</td>
<td>i/o</td>
<td>8</td>
<td>Setting for Function key labels:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZPFL13-ZPFL24 contain labels for the primary keys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZPFL01-ZPFL12 contain labels for the alternate keys</td>
</tr>
<tr>
<td>ZPRIKEYS</td>
<td>prof</td>
<td>i/o</td>
<td>4</td>
<td>Indicates the set of Function keys that will be the primary keys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• LOW—1 to 12 are primary keys</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• UPP—13 to 24 are primary keys</td>
</tr>
<tr>
<td>ZSCREEN</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>Logical screen number up to 32 screens (1-9, A-W)</td>
</tr>
<tr>
<td>ZSCREEND</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Screen depth available for dialog use. In batch mode, this variable is set</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>by the value specified for BATSCRD on the ISPSTART call.</td>
</tr>
<tr>
<td>ZSCREENW</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Screen width available for dialog use. In batch mode, this variable is set</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>by the value specified for BATSCRW on the ISPSTART call.</td>
</tr>
<tr>
<td>ZSCRMAXD</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Maximum screen depth available for dialog use. In batch mode, this variable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>is set by the value specified for BATSCRD on the ISPSTART call.</td>
</tr>
<tr>
<td>ZSCRMAXW</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Maximum screen width available for dialog use. In batch mode, this variable</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>is set by the value specified for BATSCRW on the ISPSTART call.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ZSCRMAXD and ZSCRMAXW are identical to ZSCREEND and ZSCREENW, except for</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>terminals on which an alternate size is available. In that case, ZSCRMAXD</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and ZSCRMAXW contain the screen configuration size that produces the largest</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>screen.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>For the 3290, these variables contain sizes of the hardware partition on</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>which ISPF is operating.</td>
</tr>
<tr>
<td>ZSPLIT</td>
<td>shr</td>
<td>non</td>
<td>3</td>
<td>Split-screen mode in effect (YES or NO)</td>
</tr>
</tbody>
</table>
### System variables

**Table 5. System variables: Terminal and function keys (continued)**

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZSWPBR</td>
<td>prof</td>
<td>non</td>
<td>1</td>
<td>List of logical screens displayed at bottom of screen. Has a value of Y if</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>the SWAPBAR feature is turned on. If ZSWPBAR is not present, or does not</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>have a value of Y then when ISPF is entered, SWAPBAR is not automatically</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>started.</td>
</tr>
<tr>
<td>ZTERM</td>
<td>prof</td>
<td>out</td>
<td>8</td>
<td>Terminal type as defined by option 0</td>
</tr>
</tbody>
</table>

### Scrolling

**Table 6. Scrolling variables**

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZAMT</td>
<td>prof</td>
<td>i/o</td>
<td>4</td>
<td>Scroll amount for functions such as Dialog Test, the Keylist Utility, the</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Command Table Utility, and the LIBDEF Utility</td>
</tr>
<tr>
<td>ZDYNSCR</td>
<td>any</td>
<td>in</td>
<td>4</td>
<td>If ISPF was invoked by a client and a panel with a dynamic area that can</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>be scrolled is to be displayed, the application can set the value of ZDYNSCR</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>to indicate whether the dynamic area can be scrolled up, down, left, or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>right on the next display. The variable value must be 4 bytes:</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Byte 1 set to Y when the area can be scrolled up.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Byte 2 set to Y when the area can be scrolled down.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Byte 3 set to Y when the area can be scrolled left.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Byte 4 set to Y when the area can be scrolled right.</td>
</tr>
<tr>
<td>ZSCBR</td>
<td>prof</td>
<td>i/o</td>
<td>4</td>
<td>Scroll amount for the BROWSE service</td>
</tr>
<tr>
<td>ZSCED</td>
<td>prof</td>
<td>i/o</td>
<td>4</td>
<td>Scroll amount for the EDIT service</td>
</tr>
<tr>
<td>ZSCML</td>
<td>prof</td>
<td>i/o</td>
<td>4</td>
<td>Scroll amount for member lists</td>
</tr>
<tr>
<td>ZSCRML</td>
<td>shr</td>
<td>non</td>
<td>1</td>
<td>Specifies if ISPF should scroll to the first member selected in the member</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>list after processing or disable the member list from automatic scrolling</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>and instead place the cursor in front of the last member selected.</td>
</tr>
<tr>
<td>ZSCROLLA</td>
<td>shr</td>
<td>out</td>
<td>4</td>
<td>Value from scroll amount field (PAGE, MAX, number)</td>
</tr>
<tr>
<td>ZSCROLLD</td>
<td>any</td>
<td>in</td>
<td>4</td>
<td>Value to be used as default scroll value for scrollable dynamic areas and</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>table display</td>
</tr>
<tr>
<td>ZSCROLLN</td>
<td>shr</td>
<td>out</td>
<td>4</td>
<td>Scroll number as computed from the value in the scroll amount field or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>entered as a scroll value. The maximum scroll number supported for ZSCROLLN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>is 9999. If a scroll value greater than 9999 is entered the value for ZSCROLLN</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>is set to 9999.</td>
</tr>
<tr>
<td>ZSCROLNL</td>
<td>any</td>
<td>in</td>
<td>8</td>
<td>Scroll number as computed from the value in the scroll amount field or</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>entered as a scroll value. ZSCROLNL supports scroll numbers up to 9999999.</td>
</tr>
</tbody>
</table>
Table 6. Scrolling variables (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
</table>
| ZTBLSCR| any  | in   | 4   | If ISPF was invoked by a client and the application will issue a table display and use a variable model line to dynamically build the display area for the table rows, the application can set the value of ZTBLSCR to indicate whether the table display can be scrolled up, down, left, or right on the next display. The variable value must be 4 bytes:  
|        |      |      |     | • Byte 1 set to Y when the table can be scrolled up.                        |
|        |      |      |     | • Byte 2 set to Y when the table can be scrolled down.                      |
|        |      |      |     | • Byte 3 set to Y when the table can be scrolled left.                      |
|        |      |      |     | • Byte 4 set to Y when the table can be scrolled right.                     |
| 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                                 |

Table 7. System variables: PRINTG command

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZASPECT</td>
<td>func</td>
<td>in</td>
<td>4</td>
<td>Aspect ratio of printed output from PRINTG</td>
</tr>
<tr>
<td>ZDEVNAM</td>
<td>func</td>
<td>in</td>
<td>8</td>
<td>Device name for PRINTG</td>
</tr>
<tr>
<td>ZFAMPRT</td>
<td>func</td>
<td>non</td>
<td>4</td>
<td>Family printer type for PRINTG</td>
</tr>
</tbody>
</table>

Table display service

Table 8. System variables: Table display service

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZTDADD</td>
<td>func</td>
<td>out</td>
<td>3</td>
<td>More rows needed to satisfy scroll request (YES</td>
</tr>
<tr>
<td>ZTDAMT</td>
<td>func</td>
<td>out</td>
<td>4</td>
<td>Number of rows that the dialog should add to satisfy scroll up to 9999. Set to 9999 when number of rows is greater than 9999.</td>
</tr>
<tr>
<td>ZTDAMTL</td>
<td>func</td>
<td>out</td>
<td>8</td>
<td>Number of rows that the dialog should add to satisfy scroll</td>
</tr>
<tr>
<td>ZTDLROWS</td>
<td>func</td>
<td>in</td>
<td>6</td>
<td>Number of rows in the logical table (dynamic table expansion)</td>
</tr>
<tr>
<td>ZTDLTOP</td>
<td>func</td>
<td>in</td>
<td>6</td>
<td>Maps current top row in physical table to its position in logical table.</td>
</tr>
</tbody>
</table>
| ZTDMARK| any  | in   | See note | User-defined text for table display Bottom-of-Data marker  
|        |      |      |                               |
|        |      |      |                               | **Note:** 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                      |
### System variables

#### Table 8. System variables: Table display service (continued)

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZTDSCR</td>
<td>func</td>
<td>in/out</td>
<td>6</td>
<td>CRP of top row to be displayed after the scroll</td>
</tr>
<tr>
<td>ZTDSELS</td>
<td>func</td>
<td>out</td>
<td>4</td>
<td>Number of selected table rows upon return from each table display</td>
</tr>
<tr>
<td>ZTDSIZE</td>
<td>func</td>
<td>out</td>
<td>4</td>
<td>Size (number of model sets) of the table display scrollable section</td>
</tr>
<tr>
<td>ZTDSRID</td>
<td>func</td>
<td>out</td>
<td>6</td>
<td>Rowid of the row pointed to by ZTDSCR</td>
</tr>
<tr>
<td>ZTDTOP</td>
<td>func</td>
<td>out</td>
<td>6</td>
<td>Row number (CRP) of top row displayed during most recent table display</td>
</tr>
<tr>
<td>ZTDVROWS</td>
<td>func</td>
<td>out</td>
<td>6</td>
<td>Number of visible table rows upon return from table display</td>
</tr>
</tbody>
</table>

---

#### LIST service

#### Table 9. System variables: LIST service

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZLSTLPP</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Number of lines per page in list data set</td>
</tr>
<tr>
<td>ZLSTNUML</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>Number of lines written to current list data set page</td>
</tr>
<tr>
<td>ZLSTTRUN</td>
<td>shr</td>
<td>non</td>
<td>4</td>
<td>List data set record length truncation value</td>
</tr>
</tbody>
</table>

---

#### LOG and LIST data sets

#### Table 10. System variables: LOG and LIST data sets

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZLOGNAME</td>
<td>shr</td>
<td>non</td>
<td>44</td>
<td>Contains the fully qualified data set name of the log data set.</td>
</tr>
<tr>
<td>ZLSTNAME</td>
<td>shr</td>
<td>non</td>
<td>44</td>
<td>Contains the fully qualified data set name of the list data set.</td>
</tr>
</tbody>
</table>

---

#### Dialog error

#### Table 11. System variables: Dialog error

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZERRALRM</td>
<td>func</td>
<td>out</td>
<td>3</td>
<td>Message alarm indicator (YES or NO)</td>
</tr>
<tr>
<td>ZERRHM</td>
<td>func</td>
<td>out</td>
<td>8</td>
<td>Name of help panel associated with error message</td>
</tr>
<tr>
<td>ZERRLM</td>
<td>func</td>
<td>out</td>
<td>512</td>
<td>Long error message text</td>
</tr>
<tr>
<td>ZERRMSG</td>
<td>func</td>
<td>out</td>
<td>8</td>
<td>Error message-id</td>
</tr>
<tr>
<td>ZERRSM</td>
<td>func</td>
<td>out</td>
<td>24</td>
<td>Short error message text</td>
</tr>
<tr>
<td>ZERRTYPE</td>
<td>func</td>
<td>out</td>
<td>8</td>
<td>Error message type</td>
</tr>
</tbody>
</table>
### Tutorial panels

#### Table 12. System variables: Tutorial panels

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCONT</td>
<td>Name of next continuation panel</td>
</tr>
<tr>
<td>ZHINDEX</td>
<td>Name of first index panel</td>
</tr>
<tr>
<td>ZHTOP</td>
<td>Name of top panel</td>
</tr>
<tr>
<td>ZIND</td>
<td>YES specifies an index page</td>
</tr>
<tr>
<td>ZUP</td>
<td>Name of parent panel</td>
</tr>
</tbody>
</table>

### Selection panels

#### Table 13. System variables: Selection panels

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCMD</td>
<td>Command input field</td>
</tr>
<tr>
<td>ZPARENT</td>
<td>Parent menu name (when in explicit chain mode)</td>
</tr>
<tr>
<td>ZPRIM</td>
<td>YES specifies panel is a primary option menu</td>
</tr>
<tr>
<td>ZSEL</td>
<td>Command input field truncated at first period</td>
</tr>
</tbody>
</table>

### DTL panels or panels containing a )PANEL section

#### Table 14. System variables: DTL panels or panels containing a )PANEL section

<table>
<thead>
<tr>
<th>Name</th>
<th>Pool</th>
<th>Type</th>
<th>Len</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCURFLD</td>
<td>func</td>
<td>out</td>
<td>8</td>
<td>Name of field (or list column) containing the cursor when the user exits the panel.</td>
</tr>
<tr>
<td>ZCURINX</td>
<td>func</td>
<td>out</td>
<td>8</td>
<td>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.</td>
</tr>
<tr>
<td>ZCURPOS</td>
<td>func</td>
<td>out</td>
<td>4</td>
<td>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.</td>
</tr>
</tbody>
</table>

**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.
This topic 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.

Table 15. Dialog function pool variables

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Format</th>
<th>Length</th>
<th>Service (Access)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCMD</td>
<td>Char</td>
<td>256</td>
<td>LMMDISP(W)</td>
<td>Primary Command field from member list panel if the command is not a valid ISPF or PDF primary command.</td>
</tr>
<tr>
<td>ZDLBLKSZ</td>
<td>Char</td>
<td>5</td>
<td>LMDLIST(W)</td>
<td>Block size.</td>
</tr>
<tr>
<td>ZDLCATNM</td>
<td>Char</td>
<td>44</td>
<td>LMDLIST(W)</td>
<td>Name of the catalog in which the data set was located.</td>
</tr>
<tr>
<td>ZDLCDATE</td>
<td>Char</td>
<td>10</td>
<td>LMDLIST(W)</td>
<td>Creation date.</td>
</tr>
<tr>
<td>ZDLDEV</td>
<td>Char</td>
<td>8</td>
<td>LMDLIST(W)</td>
<td>Device type.</td>
</tr>
<tr>
<td>ZDLDSNTP</td>
<td>Char</td>
<td>8</td>
<td>LMDLIST(W)</td>
<td>DS name type (‘PDS’, ‘LIBRARY’, or ‘ ’).</td>
</tr>
<tr>
<td>ZDLOVSCLONG</td>
<td>Char</td>
<td>4</td>
<td>LMDLIST(W)</td>
<td>Data set organization.</td>
</tr>
<tr>
<td>ZDLRECL</td>
<td>Char</td>
<td>5</td>
<td>LMDLIST(W)</td>
<td>Logical record length.</td>
</tr>
<tr>
<td>ZDLMVOL</td>
<td>Char</td>
<td>1</td>
<td>LMDLIST(W)</td>
<td>Multivolume indicator (Y or N).</td>
</tr>
<tr>
<td>ZDLOVFC</td>
<td>Char</td>
<td>3</td>
<td>LMDLIST(W)</td>
<td>Whether variables ZDLEXTX and ZDLSIZE should be used to obtain the 'number of extents used' and 'data set size in tracks' values (YES or NO). The value is YES when the 'number of extents used' value exceeds the size of variable ZDLEXT or the 'data set size in tracks' value exceeds the size of variable ZDLSIZE.</td>
</tr>
<tr>
<td>Variable Name</td>
<td>Format</td>
<td>Length</td>
<td>Service (Access)</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>--------</td>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ZDLRDATE</td>
<td>Char</td>
<td>10</td>
<td>LMDLIST(W)</td>
<td>Date last referenced.</td>
</tr>
<tr>
<td>ZDLRECFM</td>
<td>Char</td>
<td>5</td>
<td>LMDLIST(W)</td>
<td>Record format.</td>
</tr>
<tr>
<td>ZDLSIZE</td>
<td>Char</td>
<td>6</td>
<td>LMDLIST(W)</td>
<td>Data set size in tracks.</td>
</tr>
<tr>
<td>ZDLSIZEX</td>
<td>Char</td>
<td>12</td>
<td>LMDLIST(W)</td>
<td>Data set size in tracks (long format).</td>
</tr>
<tr>
<td>ZDLSPACU</td>
<td>Char</td>
<td>10</td>
<td>LMDLIST(W)</td>
<td>Space units, one of the following values: CYLINDERS, MEGABYTES, KILOBYTES, BYTES, BLOCKS or TRACKS.</td>
</tr>
<tr>
<td>ZDLUSED</td>
<td>Char</td>
<td>3</td>
<td>LMDLIST(W)</td>
<td>Percentage of used tracks or pages (PDSE).</td>
</tr>
<tr>
<td>ZDLVOL</td>
<td>Char</td>
<td>6</td>
<td>LMDLIST(W)</td>
<td>Volume serial.</td>
</tr>
<tr>
<td>ZDSN</td>
<td>Char</td>
<td>44</td>
<td>LMMDISP(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZDST</td>
<td>Char</td>
<td>54</td>
<td>BRIF (W) EDIF (W)</td>
<td>Title line data name for EDIF and BRIF.</td>
</tr>
<tr>
<td>ZEDBDSN</td>
<td>Char</td>
<td>44</td>
<td>EDIT (R) EDREC(W)</td>
<td>Backup data set name for standard edit recovery.</td>
</tr>
<tr>
<td>ZEDILMSG</td>
<td>Char</td>
<td>240</td>
<td>Any Edit macro</td>
<td>Long message text. Corresponds to the first 240 bytes of the message that would be displayed if the command were entered from the command line instead of within an edit macro.</td>
</tr>
<tr>
<td>ZEDISMSG</td>
<td>Char</td>
<td>24</td>
<td>Any Edit macro</td>
<td>Short message text. Corresponds to the short message that would be displayed if the command were entered from the command line instead of within an edit macro.</td>
</tr>
<tr>
<td>ZEDITCMD</td>
<td>Char</td>
<td>8</td>
<td>Any Edit macro</td>
<td>The last primary command entered in Edit.</td>
</tr>
<tr>
<td>ZEDMSGNO</td>
<td>Char</td>
<td>8</td>
<td>Any Edit macro</td>
<td>Message ID. Corresponds to the message that would be displayed if the command were entered from the command line instead of within an edit macro.</td>
</tr>
<tr>
<td>ZEDROW</td>
<td>Fixed</td>
<td>4</td>
<td>EDIT (R) EDREC(W)</td>
<td>Row number of entry in standard edit recovery table.</td>
</tr>
<tr>
<td>ZEDSAVE</td>
<td>Char</td>
<td>8</td>
<td>Data_changed EDIT macro command</td>
<td>END command will save data (SAVE or NOSAVE).</td>
</tr>
<tr>
<td>ZEDTDSN</td>
<td>Char</td>
<td>44</td>
<td>EDIT (R) EDREC(W)</td>
<td>Target data set name for standard edit recovery.</td>
</tr>
<tr>
<td>ZEDTMCMD</td>
<td>Char</td>
<td>8</td>
<td>Any Edit macro</td>
<td>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.</td>
</tr>
<tr>
<td>ZEDTMEM</td>
<td>Char</td>
<td>8</td>
<td>EDIT (R) EDREC(W)</td>
<td>Target member name (if applicable) for standard edit recovery.</td>
</tr>
<tr>
<td>ZEDTRD</td>
<td>Char</td>
<td>6</td>
<td>EDIT (R) EDREC(W)</td>
<td>Volume serial of target data set for standard edit recovery.</td>
</tr>
<tr>
<td>Variable Name</td>
<td>Format</td>
<td>Length</td>
<td>Service (Access)</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>--------</td>
<td>------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ZEDUSER</td>
<td>Char</td>
<td>1</td>
<td>EDIT (R) EDREC(W)</td>
<td>User data table extension for standard edit recovery.</td>
</tr>
<tr>
<td>ZEIBSDN</td>
<td>Char</td>
<td>54</td>
<td>EDIF (R) EDIREC(W)</td>
<td>Backup data name for EDIF edit recovery.</td>
</tr>
<tr>
<td>ZEIROW</td>
<td>Fixed</td>
<td>4</td>
<td>EDIF (R) EDIREC(W)</td>
<td>Row number of entry in EDIF edit recovery table.</td>
</tr>
<tr>
<td>ZEITDSN</td>
<td>Char</td>
<td>54</td>
<td>EDIF (R) EDIREC(W)</td>
<td>Target data name for EDIF edit recovery.</td>
</tr>
<tr>
<td>ZEIUSER</td>
<td>Char</td>
<td>1</td>
<td>EDIF (R) EDIREC(W)</td>
<td>User data table extension variable for EDIF edit recovery.</td>
</tr>
<tr>
<td>ZERRALRM</td>
<td>Char</td>
<td>3</td>
<td>ALL(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZERRRMH</td>
<td>Char</td>
<td>8</td>
<td>ALL(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZERRLM</td>
<td>Char</td>
<td>512</td>
<td>ALL(W)</td>
<td>Long-message text in which variables have been resolved. Set when ISPF services issue a return code of 8 or greater.</td>
</tr>
<tr>
<td>ZERRMSG</td>
<td>Char</td>
<td>8</td>
<td>ALL(W)</td>
<td>Message ID. Set when ISPF services issue a return code of 8 or greater.</td>
</tr>
<tr>
<td>ZERRSM</td>
<td>Char</td>
<td>24</td>
<td>ALL(W)</td>
<td>Short-message text in which variables have been resolved. Set when ISPF services issue a return code of 8 or greater.</td>
</tr>
<tr>
<td>ZGEN</td>
<td>Fixed</td>
<td>4</td>
<td>Any Edit macro</td>
<td>The generation number for the PDSE member generation being edited. This is the value at the time that the edit session started.</td>
</tr>
<tr>
<td>ZGENH</td>
<td>Fixed</td>
<td>4</td>
<td>Any Edit macro</td>
<td>The highest generation number for the PDSE member being edited. This value is only valid when a previous generation of a member is being edited and it is the value at the time that the edit session started.</td>
</tr>
<tr>
<td>ZGRPLVL</td>
<td>Char</td>
<td>8</td>
<td>LMHIER (W)</td>
<td>ISPF table variable that contains the level of this ISPF library in the controlled hierarchy.</td>
</tr>
<tr>
<td>ZGRPNME</td>
<td>Char</td>
<td>8</td>
<td>LMHIER (W)</td>
<td>ISPF table variable that contains the ISPF library group name.</td>
</tr>
<tr>
<td>ZLAC</td>
<td>Char</td>
<td>2</td>
<td>LMMDISP(W) LMMFIND(W) LMMLIST(W)</td>
<td>Authorization code of the member.</td>
</tr>
<tr>
<td>ZLALIAS</td>
<td>Char</td>
<td>8</td>
<td>LMMDISP(W) LMMFIND(W) LMMLIST(W)</td>
<td>Name of the real member of which this member is an alias.</td>
</tr>
<tr>
<td>Variable Name</td>
<td>Format</td>
<td>Length</td>
<td>Service (Access)</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>--------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ZLAMODE</td>
<td>Char</td>
<td>3</td>
<td>LMMDISP(W)</td>
<td>AMODE of the member.</td>
</tr>
<tr>
<td>ZLATTR</td>
<td>Char</td>
<td>20</td>
<td>LMMDISP(W)</td>
<td>Load module attributes. See the z/OS ISPF Services Guide.</td>
</tr>
<tr>
<td>ZLCDATE</td>
<td>Char</td>
<td>8</td>
<td>LMMDISP(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZLC4DATE</td>
<td>Char</td>
<td>10</td>
<td>LMMDISP(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZLCNORC</td>
<td>Fixed</td>
<td>4</td>
<td>LMMDISP(W)</td>
<td>Current number of records in the specified member. A number from 0 to 65535. If no value exists for this variable, the PDF component will set the value to blanks.</td>
</tr>
<tr>
<td>ZLINORC</td>
<td>Fixed</td>
<td>4</td>
<td>LMMDISP(W)</td>
<td>Number of records in the specified member when it was first created. A number from 0 to 65535.</td>
</tr>
<tr>
<td>ZLLIB</td>
<td>Fixed</td>
<td>4</td>
<td>LMMDISP(W)</td>
<td>Position of the specified member in the concatenated data sets. A number from 1 to 4.</td>
</tr>
<tr>
<td>ZLMDATE</td>
<td>Char</td>
<td>8</td>
<td>LMMDISP(W)</td>
<td>Date on which the specified member was last modified. 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.</td>
</tr>
<tr>
<td>ZLM4DATE</td>
<td>Char</td>
<td>10</td>
<td>LMMDISP(W)</td>
<td>Date on which the specified member was last modified, 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.</td>
</tr>
<tr>
<td>ZLMEMBER</td>
<td>Char</td>
<td>8</td>
<td>LMMDISP(W)</td>
<td>Name of the current selected member.</td>
</tr>
<tr>
<td>ZLMNORC</td>
<td>Fixed</td>
<td>4</td>
<td>LMMDISP(W)</td>
<td>The number of records that have been modified in the specified member. A number from 0 to 65535.</td>
</tr>
<tr>
<td>Variable Name</td>
<td>Format</td>
<td>Length</td>
<td>Service (Access)</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>--------</td>
<td>--------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ZLMOD</td>
<td>Fixed</td>
<td>4</td>
<td>LMMADD(R)</td>
<td>Modification level of the specified member. A number from 0 to 99.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMDISP(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMREP(R)</td>
<td></td>
</tr>
<tr>
<td>ZLMTIME</td>
<td>Char</td>
<td>5</td>
<td>LMMADD(R)</td>
<td>Time when the specified member was last modified. A character string in the form hh:mm.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMDISP(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMREP(R)</td>
<td></td>
</tr>
<tr>
<td>ZLMSEC</td>
<td>Char</td>
<td>2</td>
<td>LMMADD(R)</td>
<td>Seconds value of last modified time.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMDISP(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMREP(R)</td>
<td></td>
</tr>
<tr>
<td>ZLSSI</td>
<td>Char</td>
<td>8</td>
<td>LMMDISP(W)</td>
<td>SSI (System Status Index) of the load module.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td>ZLPDSUDA</td>
<td>Char</td>
<td>62</td>
<td>LMMDISP(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZLRMODE</td>
<td>Char</td>
<td>3</td>
<td>LMMDISP(W)</td>
<td>RMODE of the member.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td>ZLSIZE</td>
<td>Char</td>
<td>8</td>
<td>LMMDISP(W)</td>
<td>Load module size (in Hex).</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td>ZLTTR</td>
<td>Char</td>
<td>6</td>
<td>LMMDISP(W)</td>
<td>TTR of the member.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td>ZLUSER</td>
<td>Char</td>
<td>7</td>
<td>LMMADD(R)</td>
<td>User ID of user who last modified the specified member; the user ID has a maximum length of 7 characters.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMDISP(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMREP(R)</td>
<td></td>
</tr>
</tbody>
</table>

- For services that read from this variable, you must use the ZUSER8 variable if you want to specify an 8-character user ID.
- For services that write to this variable, when the user ID is an 8-character value, this variable contains the value '>7CHARS'; the 8-character user ID can be obtained from the ZUSER8 variable.
### Table 15. Dialog function pool variables (continued)

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Format</th>
<th>Length</th>
<th>Service (Access)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZLUSER8</td>
<td>Char</td>
<td>8</td>
<td>LMMADD(R)</td>
<td>User ID of the last user to change the given member.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMDISP(W)</td>
<td>• When 8-character user IDs are enabled on the system, the user ID has a maximum length of 8 characters.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td>• When 8-character user IDs are not enabled on the system, the user ID has a maximum length of 7 characters.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMREP(R)</td>
<td></td>
</tr>
<tr>
<td>ZLVERS</td>
<td>Fixed</td>
<td>4</td>
<td>LMMADD(R)</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMDISP(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMFIND(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMREP(R)</td>
<td></td>
</tr>
<tr>
<td>ZMEMCNT</td>
<td>Char</td>
<td>8</td>
<td>LMMLIST(W)</td>
<td>Number of members in the member list.</td>
</tr>
<tr>
<td>ZMLCOLS</td>
<td>Char</td>
<td>80</td>
<td>LMMDISP(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZMLCR</td>
<td>Fixed</td>
<td>4</td>
<td>LMMDISP(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZMLTR</td>
<td>Fixed</td>
<td>4</td>
<td>LMMDISP(W)</td>
<td>Number of members in the member list. Its range is from 1-99 999. This variable is only available for member list panels.</td>
</tr>
<tr>
<td>ZMSRTFLD</td>
<td>Char</td>
<td>8</td>
<td>ALL(W)</td>
<td>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.</td>
</tr>
<tr>
<td>ZSCALIAS</td>
<td>Char</td>
<td>1</td>
<td>LMINIT(W)</td>
<td>Data set name is an alias ('Y' or 'N').</td>
</tr>
<tr>
<td>ZSCLM</td>
<td>Char</td>
<td>1</td>
<td>LMMFIND(W)</td>
<td>Last updater of member. 'Y' indicates SCLM was last updater. 'N' indicates PDF.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>LMMLIST(W)</td>
<td></td>
</tr>
<tr>
<td>ZSCMVOL</td>
<td>Char</td>
<td>1</td>
<td>LMINIT(W)</td>
<td>Data set name is multivolume ('Y' or 'N').</td>
</tr>
<tr>
<td>ZUSERMAC</td>
<td>Char</td>
<td>8</td>
<td>EDIT(R) EDIF(R)</td>
<td>Application-wide edit macro.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>VIEW(R) VIIF(R)</td>
<td></td>
</tr>
</tbody>
</table>

### PDF non-modifiable variables

The following read-only variables are available to PDF component dialogs:

---

1. Length limited only by ISPF restrictions on the length of table extension variables.
Table 16. Read-only variables available to PDF component dialogs

<table>
<thead>
<tr>
<th>Variable Name</th>
<th>Format</th>
<th>Length</th>
<th>Service (Access)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ZCUNIT</td>
<td>Char</td>
<td>8</td>
<td>none</td>
<td>Unit name to be used for temporary allocations. This variable comes from ISPF configuration table keyword PDF_DEFAULT_UNIT.</td>
</tr>
<tr>
<td>ZCUSIZE</td>
<td>Fixed</td>
<td>4</td>
<td>none</td>
<td>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 z/OS ISPF Edit and Edit Macros for further information.</td>
</tr>
<tr>
<td>ZICFPRT</td>
<td>Char</td>
<td>3</td>
<td>none</td>
<td>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.</td>
</tr>
</tbody>
</table>
| ZPDFREL       | Char   | 8      | none             | PDF version number in the form "PDF x.y ". The string x.y identifies the version and release of z/OS:  
• 7.4 means ISPF for z/OS Version 2 Release 4.0  
• 7.3 means ISPF for z/OS Version 2 Release 3.0  
• 7.2 means ISPF for z/OS Version 2 Release 2.0 |
| 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. |
Dialog variables
Chapter 8. Dialog Tag Language (DTL) tags

The following table is an alphabetic summary of the supported Dialog Tag Language (DTL) tags for z/OS V2R4 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>
<thead>
<tr>
<th>Tag</th>
<th>End tag</th>
<th>Attributes</th>
<th>Nested tags</th>
<th>Used within</th>
</tr>
</thead>
<tbody>
<tr>
<td>AB</td>
<td>Yes</td>
<td>MNEMGEN=YES</td>
<td>NO</td>
<td>AB</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ABSEPSTR=ab-separator-string</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ABSEPCHAR=ab-separator-character</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ABC</td>
<td>No</td>
<td>HELP=NO</td>
<td>YES</td>
<td>help-panel-name</td>
</tr>
<tr>
<td>ACTION</td>
<td>No</td>
<td>RUN=internal-command-name</td>
<td>%varname</td>
<td>PARM=parameters</td>
</tr>
<tr>
<td>Tag</td>
<td>End tag</td>
<td>Attributes</td>
<td>Nested tags</td>
<td>Used within</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
<td>------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>AREA</td>
<td>Yes</td>
<td>MARGINW=1</td>
<td>COMMENT</td>
<td>HELP PANEL</td>
</tr>
<tr>
<td></td>
<td></td>
<td>MARGIND=0</td>
<td>DA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>INDENT=n</td>
<td>DIVIDER</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DEPTH=n</td>
<td>DTAFLD</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>EXTEND=OFF</td>
<td>GA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ON</td>
<td>FORCE</td>
<td>GENERATE</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DIV=NONE</td>
<td>GRPHDR</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>BLANK</td>
<td>SOLID</td>
<td>INFO</td>
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<tr>
<td></td>
<td></td>
<td>DASH</td>
<td>TEXT</td>
<td>LISTFLD</td>
</tr>
<tr>
<td></td>
<td></td>
<td>WIDTH=n</td>
<td>PNLINST</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>DIR=VERT</td>
<td>REGION</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>HORIZ</td>
<td>SELFLD</td>
<td></td>
</tr>
<tr>
<td>ASSIGNI</td>
<td>No</td>
<td>VALUE=test-value</td>
<td>ASSIGNI</td>
<td>DTAFLD</td>
</tr>
<tr>
<td>ASSIGNL</td>
<td>Yes</td>
<td>DESTVAR=destination-variable-name</td>
<td>ASSIGNI</td>
<td>DTAFLD</td>
</tr>
<tr>
<td>ATTENTION</td>
<td>Yes</td>
<td>text</td>
<td>DL</td>
<td>LI</td>
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<td></td>
<td></td>
<td>FIG</td>
<td>LP</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>HP</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>LINES</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NOTE</td>
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</tr>
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<td></td>
<td>NOTEL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>NT</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>OL</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>P</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>PARML</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>PS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>RP</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
<td>SL</td>
<td></td>
</tr>
<tr>
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<td></td>
<td>UL</td>
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<td>XMP</td>
<td></td>
</tr>
<tr>
<td>Tag</td>
<td>End tag</td>
<td>Attributes</td>
<td>Nested tags</td>
<td>Used within</td>
</tr>
<tr>
<td>--------</td>
<td>---------</td>
<td>---------------------------------------------------------------------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>ATTR</td>
<td>No</td>
<td>ATTRCHAR=code&lt;br&gt;Type=DATAIN</td>
<td>DA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DATAOUT</td>
<td>CHAR&lt;br&gt;Intens=HIGH</td>
</tr>
<tr>
<td>BOTINST</td>
<td>No</td>
<td>Compact&lt;br&gt;Instruction-text&lt;br&gt;Compaction text</td>
<td>HP&lt;br&gt;Ps&lt;br&gt;Rp</td>
<td>PANEL</td>
</tr>
<tr>
<td>CAUTION</td>
<td>Yes</td>
<td>Text&lt;br&gt;Text</td>
<td>DL&lt;br&gt;Fig&lt;br&gt;Hp&lt;br&gt;Lines&lt;br&gt;Note&lt;br&gt;NoteTel&lt;br&gt;Nt&lt;br&gt;Ol&lt;br&gt;P&lt;br&gt;Parml&lt;br&gt;Ps&lt;br&gt;Rp&lt;br&gt;Sl&lt;br&gt;Ul&lt;br&gt;Ump&lt;br&gt;L1&lt;br&gt;Lp&lt;br&gt;P1</td>
<td></td>
</tr>
<tr>
<td>CHDIV</td>
<td>No</td>
<td>Type=None</td>
<td>HP&lt;br&gt;Selfld&lt;br&gt;Choice</td>
<td>Selbstld&lt;br&gt;Choice</td>
</tr>
<tr>
<td>Tag</td>
<td>End tag</td>
<td>Attributes</td>
<td>Nested tags</td>
<td>Used within</td>
</tr>
<tr>
<td>---------</td>
<td>---------</td>
<td>------------------------------------------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| CHECKI  | No      | TYPE= R
<pre><code>     | RANGE  | PARM1=low-bound | %varname |
</code></pre>
<p>|         |         | PARM2=high-bound | %varname   |             |
|         |         | ALPHA            |             |             |
|         |         | CHARS            |             |             |
|         |         | PARM1=EQ         |             |             |
|         |         | PARM2=character-set |       |             |
|         |         | VALUES            |             |             |
|         |         | PARM1=EQ         |             |             |
|         |         | PARM2=value-list |             |             |
|         |         | VALUESX           |             |             |
|         |         | PARM1=NE         |             |             |
|         |         | PARM2=value-list |             |             |
|         |         | BIT               |             |             |
|         |         | NAME              |             |             |
|         |         | NAMEF             |             |             |
|         |         | PICT               |             |             |
|         |         | PARM1=EQ         |             |             |
|         |         | PARM2=pictstring |             |             |
|         |         | PICTCN            |             |             |
|         |         | PARM1=mask-character |     |             |
|         |         | PARM2=field-mask |             |             |
|         |         | PARM3=string     |             |             |
|         |         | NUM               |             |             |
|         |         | DBCS              |             |             |
|         |         | LISTV             |             |             |
|         |         | PARM1=EQ         |             |             |
|         |         | PARM2=%varlist   |             |             |
|         |         | LISTUX            |             |             |
|         |         | PARM1=NE         |             |             |
|         |         | PARM2=%varlist   |             |             |
|         |         | ALPHAB            |             |             |
|         |         | LEN               |             |             |
|         |         | PARM1=operator    | %varname   |             |
|         |         | PARM2=length      | %varname   |             |
|         |         | EBCDIC            |             |             |
|         |         | ENUM              |             |             |
|         |         | DSNAME             |             |             |
|         |         | DSNAMEF            |             |             |
|         |         | DSNAMEFM           |             |             |
|         |         | DSNAMEPQ           |             |             |
|         |         | DSNAMEQ            |             |             |
|         |         | MIX                |             |             |
|         |         | HEX                |             |             |
|         |         | FILEID            |             |             |
|         |         | INCLUDE            |             |             |
|         |         | PARM1=IMBLK       |             |             |
|         |         | PARM2=ALPHA      | ALPHAB | NUM |
|         |         | PARM3=ALPHA      | ALPHAB | NUM |</p>
<table>
<thead>
<tr>
<th>Tag</th>
<th>End tag</th>
<th>Attributes</th>
<th>Nested tags</th>
<th>Used within</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHECKI</td>
<td>No</td>
<td>TYPE= IDATE STDDATE JDATE JSTD ITIME STDTIME IPADDR4</td>
<td></td>
<td>CHECKL</td>
</tr>
<tr>
<td>CHECKL</td>
<td>Yes</td>
<td>MSG=message-identifier</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
<tr>
<td>CHOFLD</td>
<td>No</td>
<td>DATAVAR=field-data VARCLASS=variable-class-name HELP=NO</td>
<td>ACTION COMMENT HP PS RP SOURCE</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>HELP=message-id VARCLASS=variable-class-name HELP=NO</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>USAGE=BOTH IN OUT REQUIRED=NO YES MSG=message-identifier</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>AUTOTAB=NO YES ENTWIDTH=n FLDSPACE=n ALIGN=START CENTER END</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>DISPLAY=YES NO NOENDATTR PAD=NULLS USER char %varname PADC=NULLS USER char %varname</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OUTLINE=NONE L R O U BOX %varname PSVAR=point-and-shoot-variable %varname PSVAL=point-and-shoot-value %varname</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAS=%varname EXPAND ATTRCHANGE=NO YES NEW INIT=initial-value IMAPNAME=image-name %varname IMAPNAMEP=image-namep %varname</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PLACE=ABOVE BELOW LEFT RIGHT %varname ATTRCHAR=code CAPS=OFF ON</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
<tr>
<td></td>
<td></td>
<td>choice-description-text</td>
<td>CHECKI</td>
<td>VARCLASS</td>
</tr>
</tbody>
</table>
### Table 17. Tag summary (continued)

<table>
<thead>
<tr>
<th>Tag</th>
<th>End tag</th>
<th>Attributes</th>
<th>Nested tags</th>
<th>Used within</th>
</tr>
</thead>
</table>
| CHOICE  | No      | NAME=choice-name
HELP=NO | YES | help-panel-name |
*help-message-id | %varname | *%varname
CHECKVAR=variable-name
MATCH=1 | string
NOMATCH=0 | string
AUTOTAB=YES | NO
SELCHAR='char(s),n'
PAD=NULLS | USER | char | %varname
PADC=NULLS | USER | char | %varname
OUTLINE=NONE | L | R | O | U | BOX |
%varname
HIDE
HIDEX
UNAVAIL=variable-name
UNAVAILMAT=1 | string
TRUNC=n
AUTOSEL=YES | NO
choice-description-text |
| CMD     | No      | NAME=internal-command-name
ALTDESC=command-description
external-command-name |
| CMDACT  | No      | ACTION=
'SELECT=select-parameters'
'ALIAS=internal-command-name parameters'
PASSTHRU
SETVERB
BACKWARD
CANCEL
EXIT
EXHELP
FKA
FORWARD
HELP
PANELID
RETRIEVE
%varname
application-command
ASIS |

Summary of DTL tags
## Summary of DTL tags

### Table 17. Tag summary (continued)

<table>
<thead>
<tr>
<th>Tag</th>
<th>End tag</th>
<th>Attributes</th>
<th>Nested tags</th>
<th>Used within</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMDAREA</td>
<td>No</td>
<td>HELP=YES</td>
<td>YES</td>
<td>help-panel-name</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PMTLOC=BEFORE</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NOINIT</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PAD=NULLS</td>
<td>USER</td>
<td>%varname</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PADC=NULLS</td>
<td>USER</td>
<td>%varname</td>
</tr>
<tr>
<td></td>
<td></td>
<td>OUTLINE=NONE</td>
<td>L</td>
<td>R</td>
</tr>
<tr>
<td></td>
<td></td>
<td>%varname</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>NAME=cmdarea-variable-name</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>ENTWIDTH=n</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>PMTTEXT=YES</td>
<td>NO</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CMDLOC=DEFAULT</td>
<td>ASIS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>CMDLEN=DEFAULT</td>
<td>MAX</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>AUTOTAB=NO</td>
<td>YES</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SCROLLVAR=scroll-variable</td>
<td></td>
<td></td>
</tr>
<tr>
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**Table 17. Tag summary (continued)**
### Table 17. Tag summary (continued)

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| H2/H3/H4| No      | COMPACT  
heading-text                                 | HP          | INFO        |
<p>| HP      | Yes     | TYPE=ET | CH | CT | FP | LEF | LI | NT | PT | SAC | TEXT | WASL | WT | COLOR=WHITE | RED | BLUE | GREEN | PINK | YELLOW | TURQ | %varname | INTENS=HIGH | LOW | NON | %varname | HILITE=USCORE | BLINK | REVERSE | %varname | INTENSE=varname | phrase-to-be-highlighted | ATTENTION | BOTINST | CAUTION | CHDIV | CHOICE | CMDAREA | DD | DDHD | DIVIDER | DT | DTAFLD | DTAFLDD | DTHD | FIG | FIGCAP | GRPHDR | H2 | H3 | H4 | HELP | LI | LINES | LP | LSTCOL | LSTGRP | NOTE | NT | P | PANEL | PD | PNLINST | PT | SELFLD | TOPINST | WARNING | XMP |</p>
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### Table 17. Tag summary (continued)

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Summary of DTL tags
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HELP=help-panel-name | %varname     |             |
|      |         | DEPTH=n | FIT | WIDTH=n | FIT | %varname | KEYLIST=key-list-name | KEYLTYPE=PRIVATE | SHARED | APPLID=application-id | CCSID=n | WINDOW=YES | NO | WINTITLE=window-title | APPTITLE=application-title | PAD=NULLS | USER | char | %varname | PADC=NULLS | USER | char | %varname | OUTLINE=NONE | L | R | O | U | BOX | %varname | EXPAND=xy | MERGESAREA=NO | YES | ENTKEYTEXT=enter-key-text | IMAPNAME=image-name | %varname | IMAPROW=n | %varname | IMAPCOL=n | %varname | TMARGIN=n | BMARGIN=n |
### Table 17. Tag summary (continued)

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|        |         | WIDTH=n | *        
|        |         | DEPTH=n | *        
|        |         | EXTEND=OFF | ON | FORCE  
|        |         | ALIGN=YES | NO       
|        |         | GRPBOX=NO | YES      
|        |         | GRPWIDTH=n                      
|        |         | GRPBXVAR=variable-name          
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|        |         | LOCATION=DEFAULT | TITLE  
|        |         | group-box-title                  |
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|        |         | %varname | *%varname  
|        |         | reference-phrase                  | COMMENT | AREA  
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|        |         |                     | DIVIDER | PANEL  
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|        |         |                     | INFO   |
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Summary of DTL tags

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Appendix A. Accessibility

Accessible publications for this product are offered through IBM Knowledge Center (www.ibm.com/support/knowledgecenter/SSLTBW/welcome).

If you experience difficulty with the accessibility of any z/OS information, send a detailed message to the Contact z/OS web page (www.ibm.com/systems/z/os/zos/webqs.html) or use the following mailing address.

IBM Corporation
Attention: MHVRCFS Reader Comments
Department H6MA, Building 707
2455 South Road
Poughkeepsie, NY 12601-5400
United States

Accessibility features

Accessibility features help users who have physical disabilities such as restricted mobility or limited vision use software products successfully. The accessibility features in z/OS can help users do the following tasks:

- Run assistive technology such as screen readers and screen magnifier software.
- Operate specific or equivalent features by using the keyboard.
- Customize display attributes such as color, contrast, and font size.

Consult assistive technologies

Assistive technology products such as screen readers function with the user interfaces found in z/OS. Consult the product information for the specific assistive technology product that is used to access z/OS interfaces.

Keyboard navigation of the user interface

You can access z/OS user interfaces with TSO/E or ISPF. The following information describes how to use TSO/E and ISPF, including the use of keyboard shortcuts and function keys (PF keys). Each guide includes the default settings for the PF keys.

- z/OS TSO/E Primer
- z/OS TSO/E User’s Guide
- z/OS ISPF User’s Guide Vol I

Dotted decimal syntax diagrams

Syntax diagrams are provided in dotted decimal format for users who access IBM Knowledge Center with a screen reader. In dotted decimal format, each syntax element is written on a separate line. If two or more syntax elements are always present together (or always absent together), they can appear on the same line because they are considered a single compound syntax element.
Each line starts with a dotted decimal number; for example, 3 or 3.1 or 3.1.1. To hear these numbers correctly, make sure that the screen reader is set to read out punctuation. All the syntax elements that have the same dotted decimal number (for example, all the syntax elements that have the number 3.1) are mutually exclusive alternatives. If you hear the lines 3.1 USERID and 3.1 SYSTEMID, your syntax can include either USERID or SYSTEMID, but not both.

The dotted decimal numbering level denotes the level of nesting. For example, if a syntax element with dotted decimal number 3 is followed by a series of syntax elements with dotted decimal number 3.1, all the syntax elements numbered 3.1 are subordinate to the syntax element numbered 3.

Certain words and symbols are used next to the dotted decimal numbers to add information about the syntax elements. Occasionally, these words and symbols might occur at the beginning of the element itself. For ease of identification, if the word or symbol is a part of the syntax element, it is preceded by the backslash (\) character. The * symbol is placed next to a dotted decimal number to indicate that the syntax element repeats. For example, syntax element *FILE with dotted decimal number 3 is given the format 3 \* FILE. Format 3* FILE indicates that syntax element FILE repeats. Format 3* \* FILE indicates that syntax element * FILE repeats.

Characters such as commas, which are used to separate a string of syntax elements, are shown in the syntax just before the items they separate. These characters can appear on the same line as each item, or on a separate line with the same dotted decimal number as the relevant items. The line can also show another symbol to provide information about the syntax elements. For example, the lines 5.1*, 5.1 LASTRUN, and 5.1 DELETE mean that if you use more than one of the LASTRUN and DELETE syntax elements, the elements must be separated by a comma. If no separator is given, assume that you use a blank to separate each syntax element.

If a syntax element is preceded by the % symbol, it indicates a reference that is defined elsewhere. The string that follows the % symbol is the name of a syntax fragment rather than a literal. For example, the line 2.1 %OP1 means that you must refer to separate syntax fragment OP1.

The following symbols are used next to the dotted decimal numbers.

? indicates an optional syntax element

The question mark (?) symbol indicates an optional syntax element. A dotted decimal number followed by the question mark symbol (?) indicates that all the syntax elements with a corresponding dotted decimal number, and any subordinate syntax elements, are optional. If there is only one syntax element with a dotted decimal number, the ? symbol is displayed on the same line as the syntax element, (for example 5? NOTIFY). If there is more than one syntax element with a dotted decimal number, the ? symbol is displayed on a line by itself, followed by the syntax elements that are optional. For example, if you hear the lines 5 ?, 5 NOTIFY, and 5 UPDATE, you know that the syntax elements NOTIFY and UPDATE are optional. That is, you can choose one or none of them. The ? symbol is equivalent to a bypass line in a railroad diagram.

! indicates a default syntax element

The exclamation mark (!) symbol indicates a default syntax element. A dotted decimal number followed by the ! symbol and a syntax element indicate that the syntax element is the default option for all syntax elements that share the same dotted decimal number. Only one of the syntax elements that share the dotted decimal number can specify the ! symbol. For example, if you hear the lines 2! FILE, 2.1! (KEEP), and 2.1 (DELETE), you know that (KEEP) is the default option for the FILE keyword. In the example, if you include the FILE keyword, but do not specify an option, the default option KEEP is applied. A default option also applies to the next higher dotted decimal number. In this example, if the FILE keyword is omitted, the default FILE(KEEP) is used. However, if you hear the lines 2! FILE, 2.1, 2.1! (KEEP), and 2.1.1 (DELETE), the default option KEEP applies only to the next higher dotted decimal number, 2.1 (which does not have an associated keyword), and does not apply to 2! FILE. Nothing is used if the keyword FILE is omitted.

* indicates an optional syntax element that is repeatable

The asterisk or glyph (*) symbol indicates a syntax element that can be repeated zero or more times. A dotted decimal number followed by the * symbol indicates that this syntax element can be used zero or more times; that is, it is optional and can be repeated. For example, if you hear the line 5.1* data area, you know that you can include one data area, more than one data area, or no data area. If you
hear the lines 3*, 3 HOST, 3 STATE, you know that you can include HOST, STATE, both together, or nothing.

**Notes:**

1. If a dotted decimal number has an asterisk (*) next to it and there is only one item with that dotted decimal number, you can repeat that same item more than once.
2. If a dotted decimal number has an asterisk next to it and several items have that dotted decimal number, you can use more than one item from the list, but you cannot use the items more than once each. In the previous example, you can write HOST STATE, but you cannot write HOST HOST.
3. The * symbol is equivalent to a loopback line in a railroad syntax diagram.

**+ indicates a syntax element that must be included**

The plus (+) symbol indicates a syntax element that must be included at least once. A dotted decimal number followed by the + symbol indicates that the syntax element must be included one or more times. That is, it must be included at least once and can be repeated. For example, if you hear the line 6.1+ data area, you must include at least one data area. If you hear the lines 2+, 2 HOST, and 2 STATE, you know that you must include HOST, STATE, or both. Similar to the * symbol, the + symbol can repeat a particular item if it is the only item with that dotted decimal number. The + symbol, like the * symbol, is equivalent to a loopback line in a railroad syntax diagram.
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