

z/OS  
2.5

*ISPF Reference Summary*



**Note**

Before using this information and the product it supports, read the information in [“Notices” on page 277](#).

This edition applies to Version 2 Release 5 of z/OS® (5650-ZOS) and to all subsequent releases and modifications until otherwise indicated in new editions.

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# Preface

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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 181 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 225) and dialog variables (Chapter 7, “Dialog variables,” on page 237) and a summary of the Dialog Tag Language (DTL) tags (Chapter 8, “Dialog Tag Language (DTL) tags,” on page 245).

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](#)*

We welcome any feedback that you have, including comments on the clarity, accuracy, or completeness of the information. See [How to send feedback to IBM](#) for additional information.

## Who should use this document

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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.

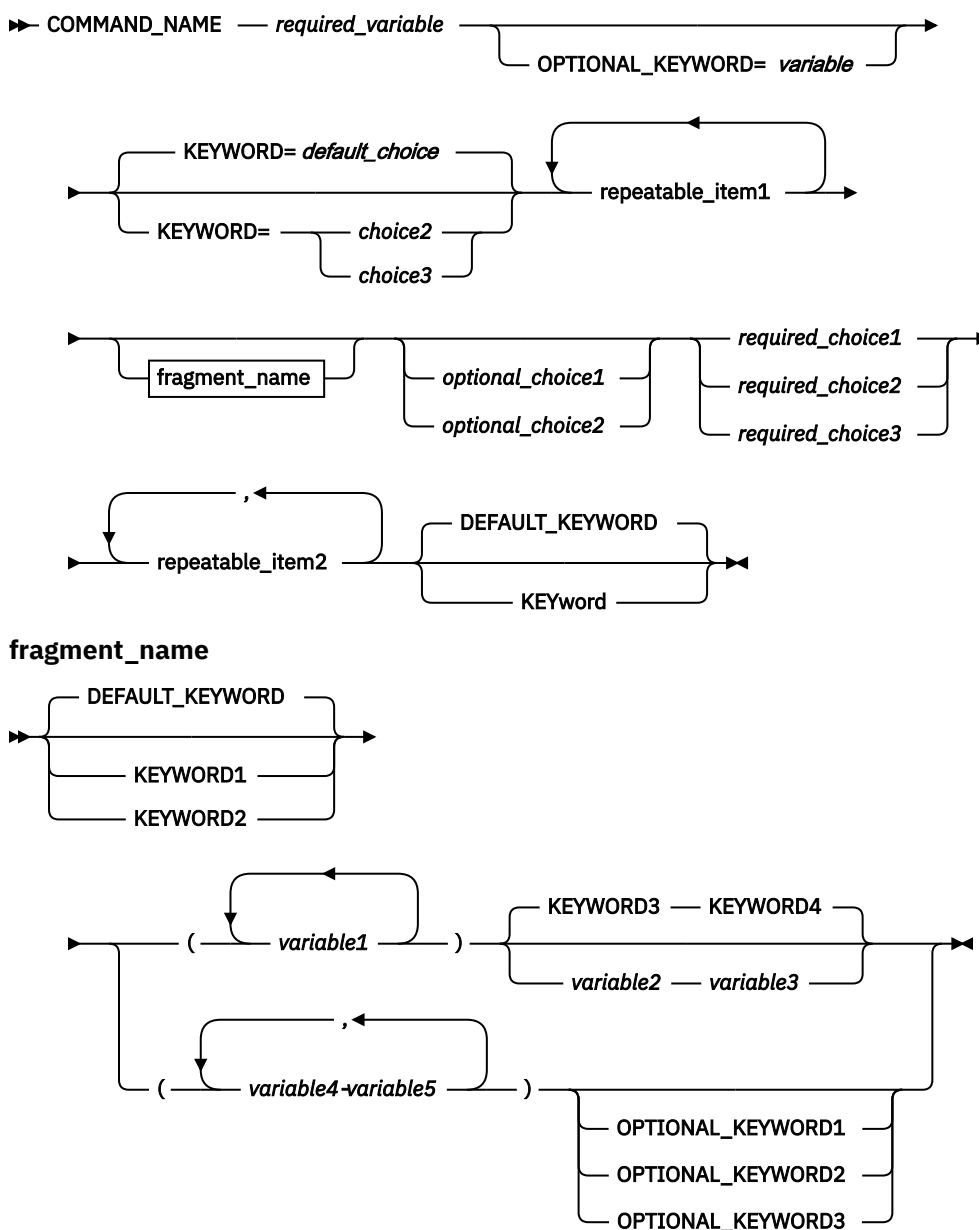


Figure 1. Sample syntax diagram

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.

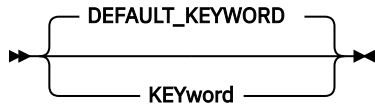
### Keywords

Keywords appear in uppercase letters.



➤ COMMAND\_NAME ➤

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\_variable* ➤

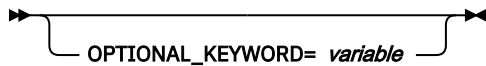
### Required items

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

➤ COMMAND\_NAME — *required\_variable* ➤

### Optional items

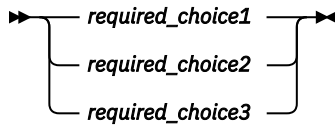
Optional items appear below the main path.



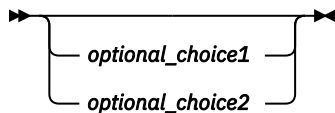
### Choice of items

If you can choose from two or more items, they appear vertically, in a stack.

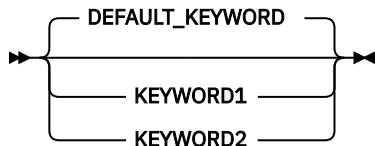
If you *must* choose one of the items, one item of the stack appears on the main path.



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

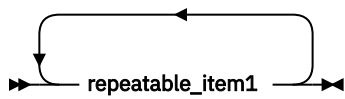


If a default value applies when you do not choose any of the items, the default value appears above the main path.

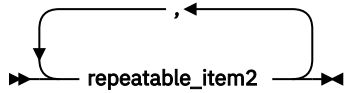


### Repeatable items

An arrow returning to the left above the main line indicates an item that can be repeated.

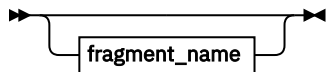


If you need to specify a separator character (such as a comma) between repeatable items, the line with the arrow returning to the left shows the separator character you must specify.



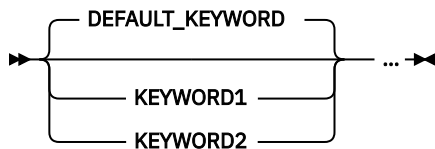
### Fragments

Where it makes the syntax diagram easier to read, a section or *fragment* of the syntax is sometimes shown separately.



⋮

### fragment\_name



## z/OS information

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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 Documentation \(www.ibm.com/docs/en/zos\)](http://www.ibm.com/docs/en/zos).



## How to send your comments to IBM

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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/](http://www.ibm.com/developerworks/rfe/)).

### Feedback on IBM® Documentation function

If your comment or question is about the IBM Documentation functionality, for example search capabilities or how to arrange the browser view, send a detailed email to IBM Documentation Support at [ibmdocs@us.ibm.com](mailto:ibmdocs@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 [mhvrcfs@us.ibm.com](mailto:mhvrcfs@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.

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## If you have a technical problem

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- Go to the [IBM Support Portal](#) ([support.ibm.com](http://support.ibm.com)).
- Contact your IBM service representative.
- Call IBM technical support.



# Summary of changes

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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.

**Note:** IBM z/OS policy for the integration of service information into the z/OS product documentation library is documented on the z/OS Internet Library under [IBM z/OS Product Documentation Update Policy \(www-01.ibm.com/servers/resourcelink/svc00100.nsf/pages/ibm-zos-doc-update-policy?OpenDocument\)](http://www-01.ibm.com/servers/resourcelink/svc00100.nsf/pages/ibm-zos-doc-update-policy?OpenDocument).

## Summary of changes for z/OS Version 2 Release 5 (V2R5)

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The following changes are made for z/OS Version 2 Release 5 (V2R5).

### Changed information

#### January 2022 refresh

Externalize Edit HILITE settings to ISPF z variables, see the following topic:

- [Chapter 7, “Dialog variables,” on page 237](#)

#### Prior to 2022 refresh

- Support for SUBSYS parameter on the ISPF SUBMIT command, see the following topics:
  - [“SUBMIT—submit data for batch processing” on page 175](#)
  - [“PDF Edit and View commands” on page 16](#)
  - [“PDF Browse primary commands” on page 11](#)
- Removal of support for Workstation Agent, see the following topics:
  - [“Invoking an ISPF application—the ISPSTART command” on page 2](#)
  - [“Files used by ISPF” on page 3](#)
  - [“ISPF system commands” on page 3](#)
  - [“PDF member list commands” on page 12](#)
  - [“Panel definition sections” on page 30](#)
  - [“EDIT—edit a data set” on page 58](#)
  - [“Panel control variables” on page 40](#)
  - [“SELECT—select a panel or function” on page 106](#)
  - [“VIEW—view a data set” on page 129](#)
  - [Chapter 5, “SCLM services and macros,” on page 181](#)
  - [“Configuration utility” on page 225](#)
  - [“Time and date” on page 226](#)
  - [“General” on page 227](#)
  - [“Scrolling” on page 233](#)
  - [“Terminal and function keys” on page 231](#)
  - [“PRINTG command” on page 234](#)
  - [“Table display service” on page 234](#)
  - [“LIST service” on page 235](#)
  - [“LOG and LIST data sets” on page 235](#)

- [“Dialog error” on page 235](#)
- [“Tutorial panels” on page 236](#)
- [“Selection panels” on page 236](#)
- [“DTL panels or panels containing a \)PANEL section” on page 236](#)
- [Chapter 8, “Dialog Tag Language \(DTL\) tags,” on page 245](#)

#### **Deleted information**

- Removal of support for Workstation Agent:
  - *FILESTAT* - statistics for a file
  - *FILEXFER* - upload or download file
  - *WSCON* - Connect to a Workstation
  - *WSDISCON* - disconnect from a workstation

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

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

#### **Changed information**

- [“LIBDEF—allocate application libraries” on page 67](#)

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

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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 93](#)



## What's in the library?

---

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

### **Title**

### **Order Number**

***z/OS ISPF Dialog Developer's Guide and Reference***

SC19-3619-40

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

SC19-3620-40

***z/OS ISPF Edit and Edit Macros***

SC19-3621-40

***z/OS ISPF Messages and Codes***

SC19-3622-40

***z/OS ISPF Planning and Customizing***

GC19-3623-40

***z/OS ISPF Reference Summary***

SC19-3624-40

***z/OS ISPF Software Configuration and Library Manager Guide and Reference***

SC19-3625-40

***z/OS ISPF Services Guide***

SC19-3626-40

***z/OS ISPF User's Guide Vol I***

SC19-3627-40

***z/OS ISPF User's Guide Vol II***

SC19-3628-40

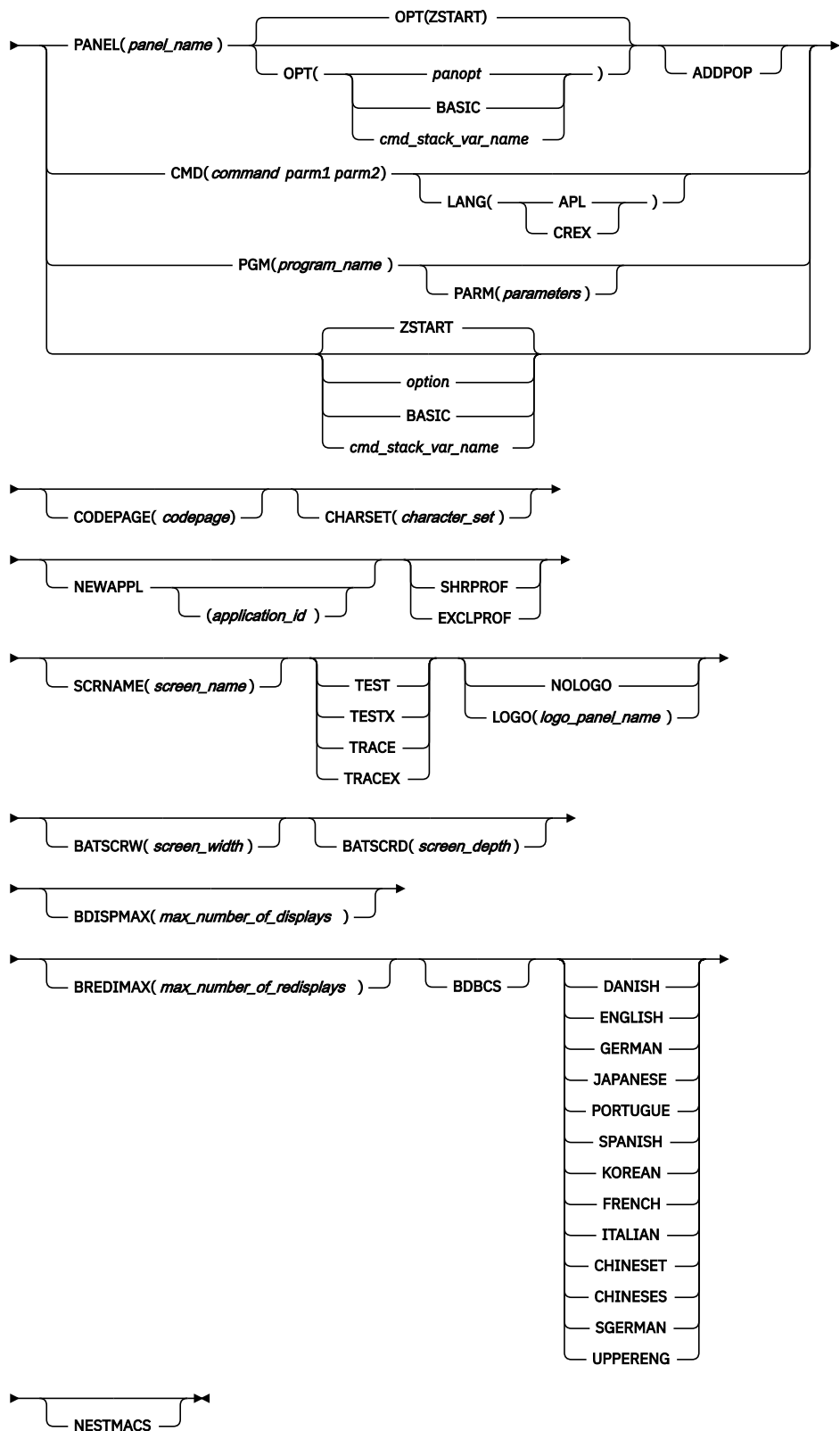


---

## Chapter 1. ISPF general information

# Invoking an ISPF application—the ISPSTART command

➡ ISPSTART ➡



## ISPF system information

## Files used by ISPF

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

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

**Note:**

The image library with the associated ddname ISPILIB is no longer used by ISPF.

## ISPF system commands

ACTIONS

BACKWARD

BOTTOM

CANCEL

CMDE

COLOR

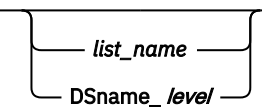
CRETRIEV

CUAATTR

CURSOR

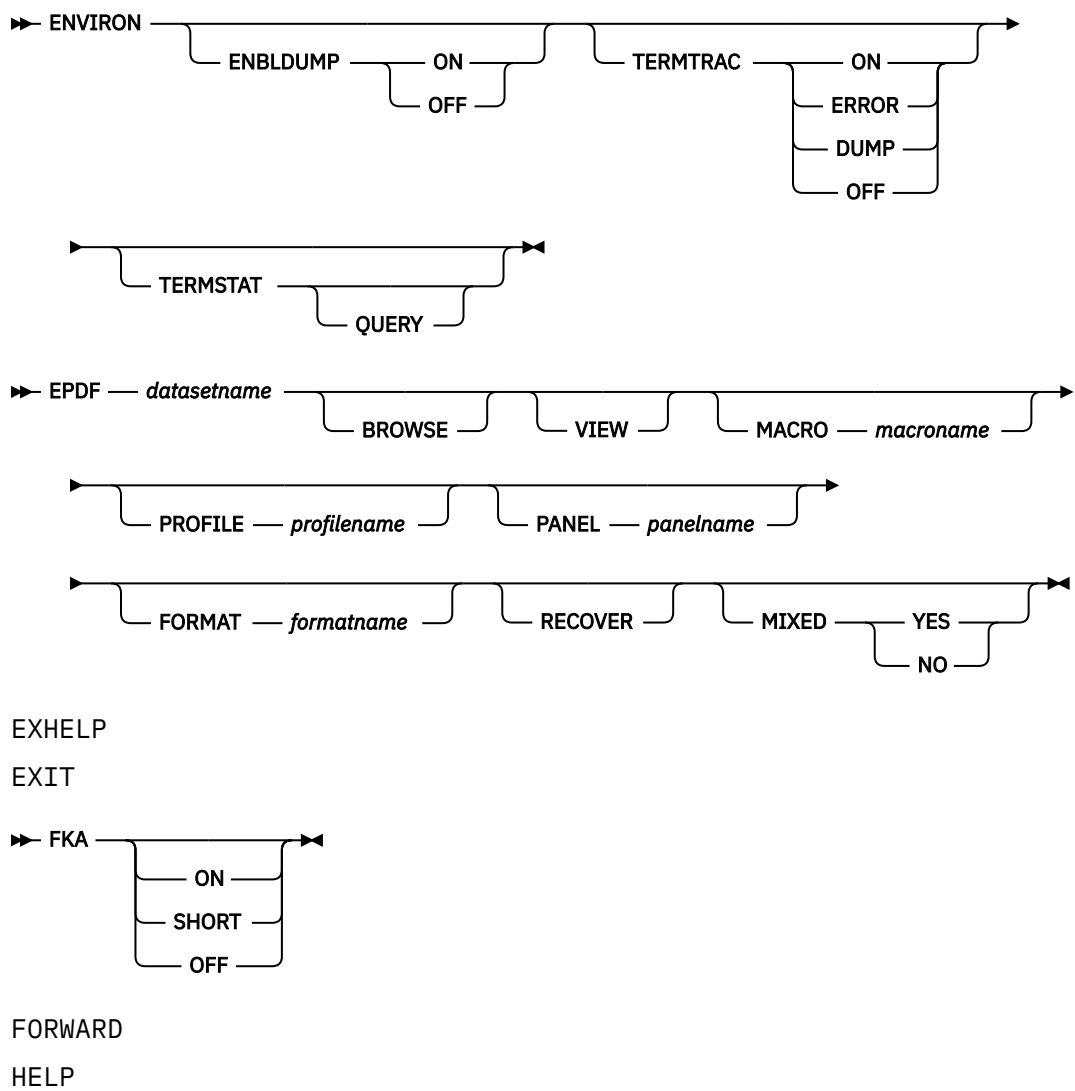
DOWN

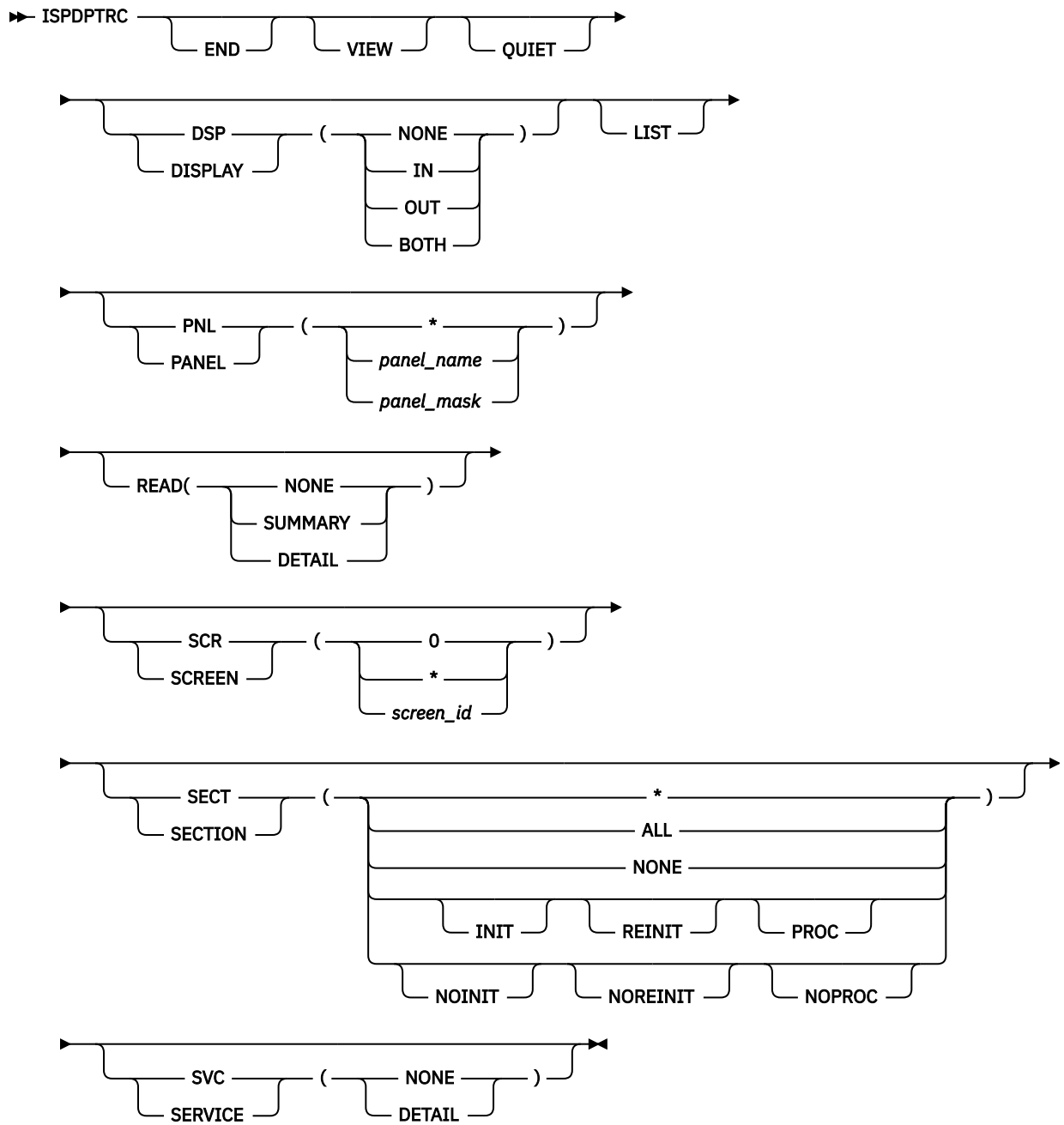
DDLIST

➤ DSLIST —  ➤

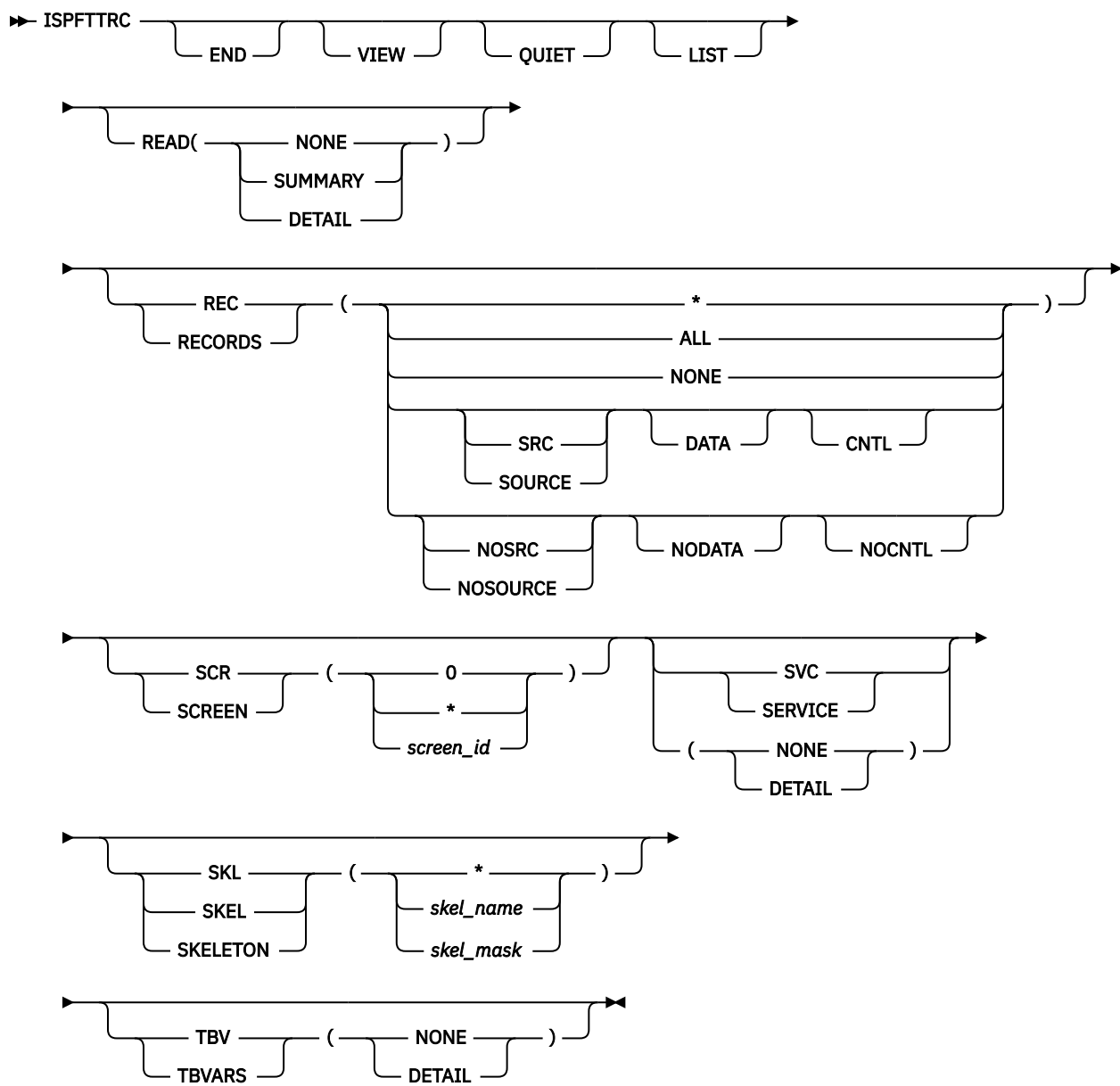
➤ DTEST — *parameter\_number* ➤

END

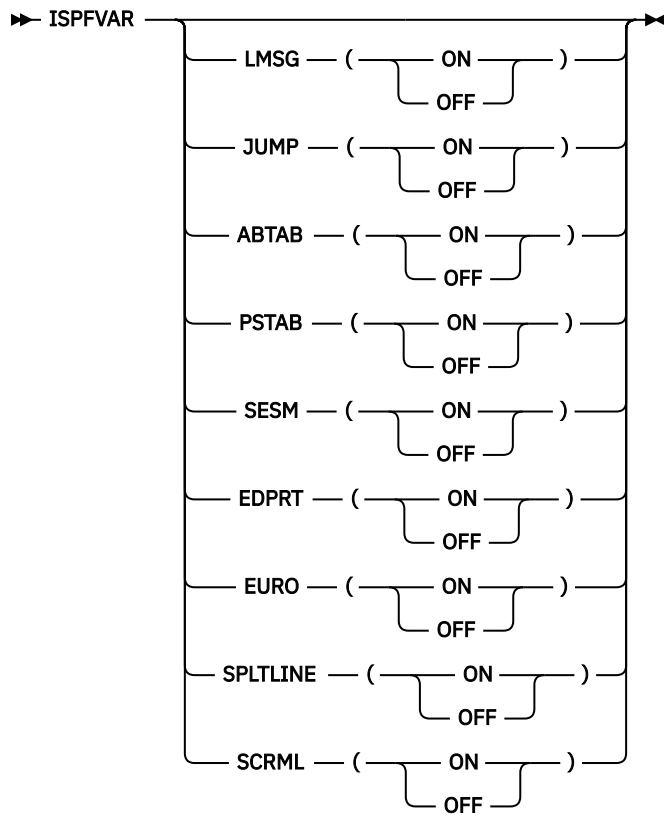




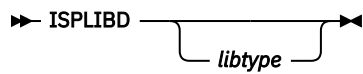
ISPD TLC







ISPFWORK

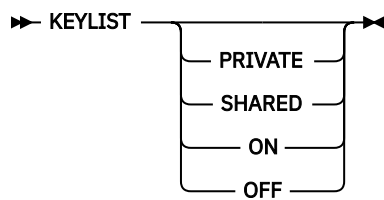


ISPPREP

ISPVCALL

ISRRLIST

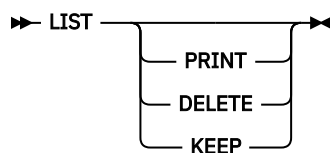
ISRROUTE

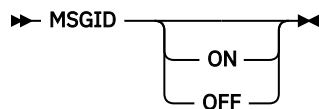
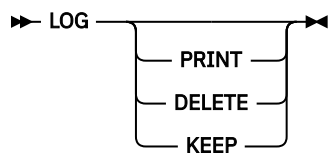


KEYS

KEYSHELP

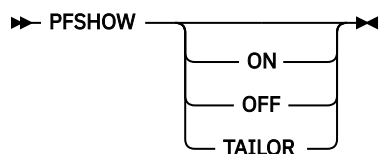
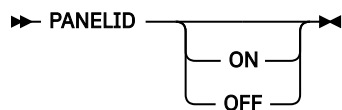
LEFT





NOP

NRETRIEV



PRINT

PRINTG

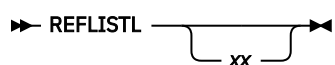
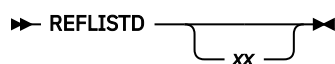
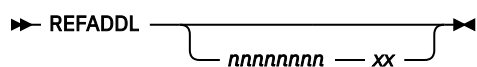
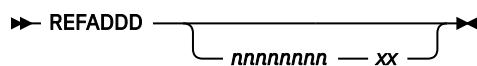
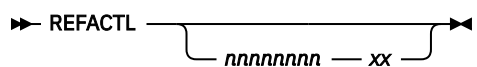
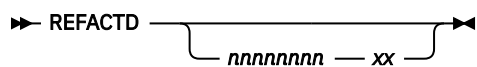
PRINT-HI

PRINTL

PRINTLHI

PSCOLOR

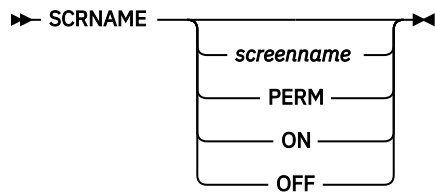
RCHANGE



REFOPEND

REFOPENL

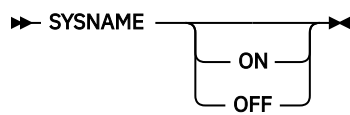
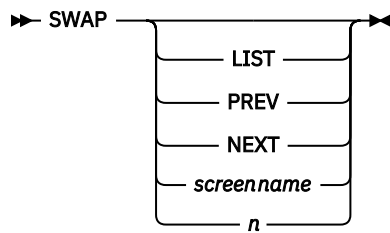
RESIZE  
 RETF  
 RETP  
 RETRIEVE  
 RETURN  
 RFIND  
 RIGHT  
 SAREA



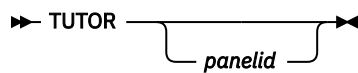
SETTINGS  
 SHRPROF



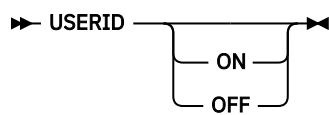
SPLITV  
 START



TOP  
 TS0  
 TSOCMD



UP



WINDOW

ZKEYS

## Command table actions

### ALIAS

When followed by the name of another command and optional parameters, allows specification of command aliases.

### NOP

Causes the command to be functionless. System displays an "inactive command" message in this case.

### PASSTHRU

Causes the command to be passed to the dialog, as though it had not been found in the table.

### SELECT

When followed by selection keywords, causes the selected dialog command, program or selection panel to be given control immediately.

### SETVERB

Causes the command to be passed to the dialog with the command verb stored separately from the parameters.

### *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

---

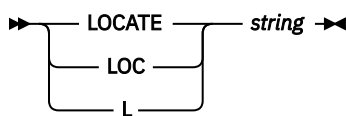
### Primary commands

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

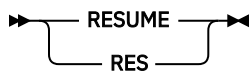
CANCEL

END

#### Syntax



QUAL

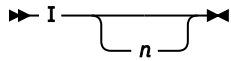


### Line commands

These line commands have special meaning during testing operations:



Delete one or  $n$  lines starting with this line.



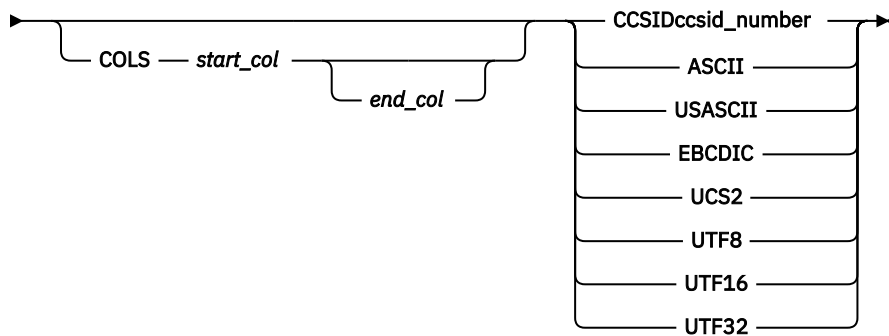
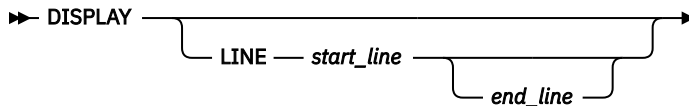
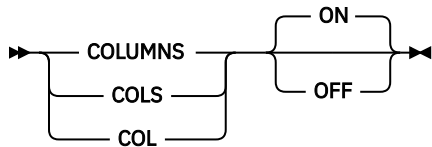
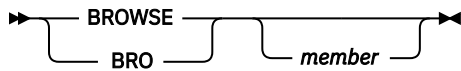
Insert one or  $n$  lines directly after this line, with underscores and quotes in the appropriate fields.



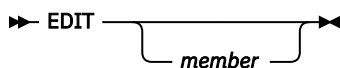
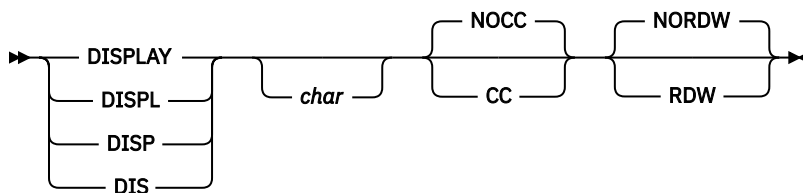
Repeat this line once or  $n$  times.

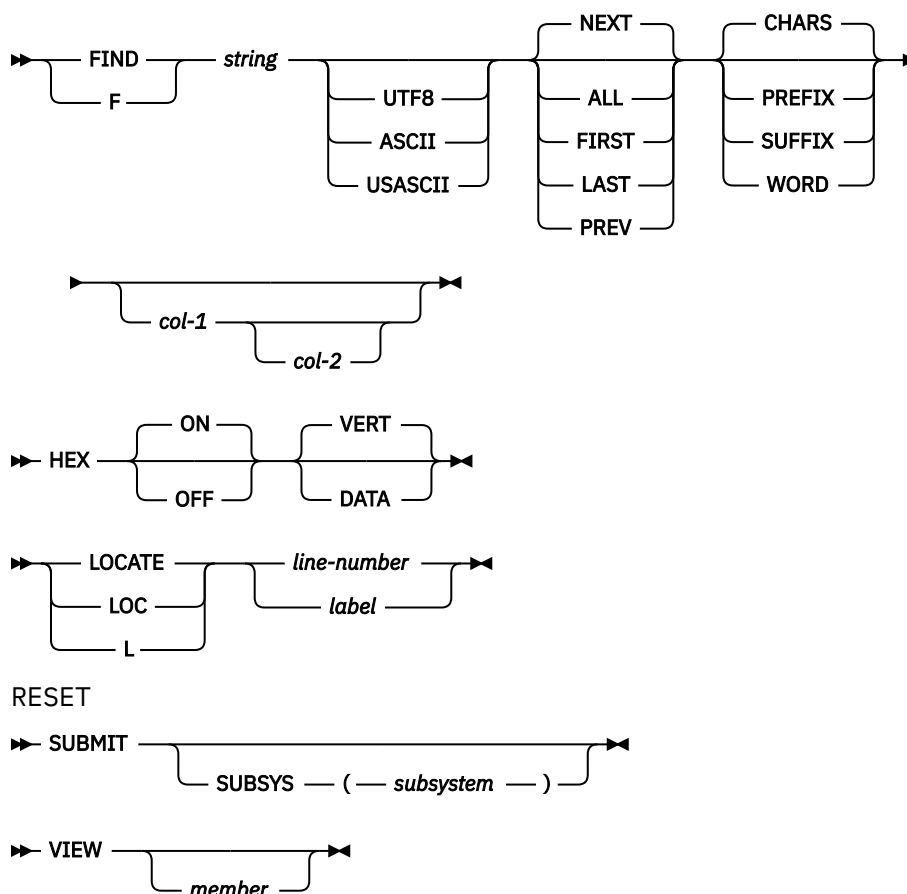
## PDF Browse primary commands

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



OR:





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

**.cccc**

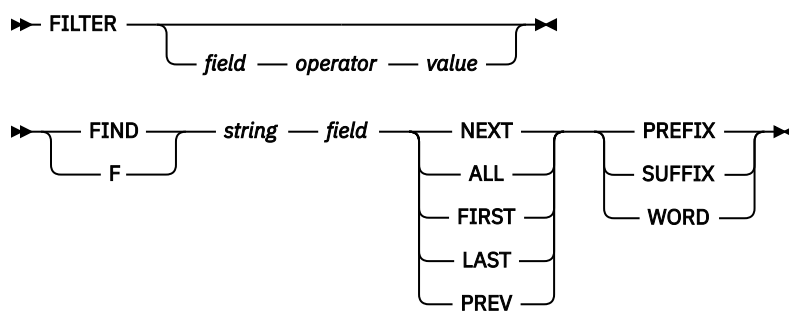
Defines a label (PDF component internal symbol), which is equated to the top line on the screen. Can be used with LOCATE to scroll directly to that line.

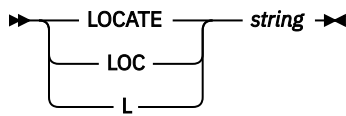
## PDF member list commands

### Primary commands

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

CONFIRM





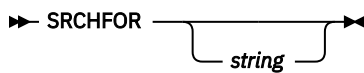
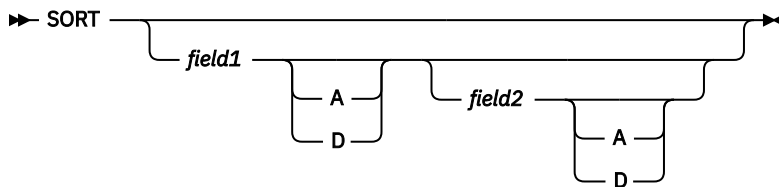
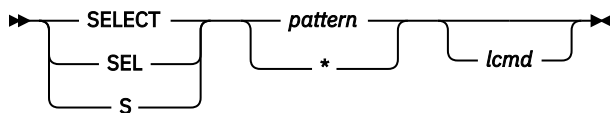
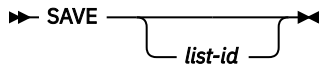
MLC

MLS

REFRESH

RESET

RFIND



## 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.

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

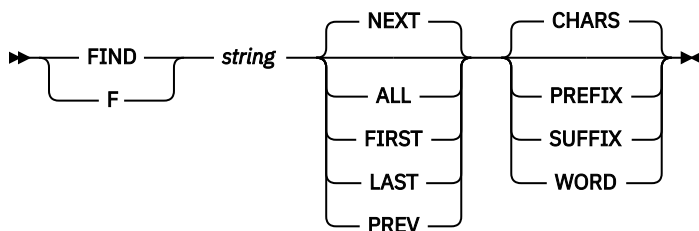
You can enter these commands on the command line on option 3.4 data set list displays.

APPEND

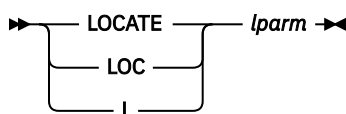


DSLIST

EXCLUDE



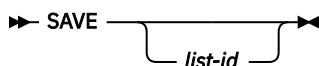
LC



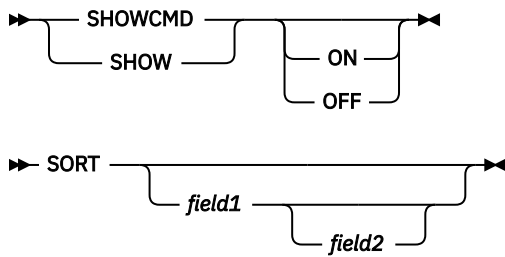
REFRESH

RESET

RFIND







VA

VS

VT

VW

## Line commands

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

### B

For a library or partitioned data set, displays a member list. You can then use the S command to select a member to browse. For a sequential data set, displays the data set in browse mode.

### C

Catalogs the data set.

### CO

Copies a data set.

### D

Deletes an entire data set. Displays a Confirm Delete panel if you request confirmation.

### E

For a library or partitioned data set, displays a member list. You can then use the S command to select a member to edit. For a sequential data set, displays the data set in edit mode.

### F

Frees unused space in a data set.

### I

Displays library or data set information.

### M

For a library or partitioned data set, displays a member list.

### MO

Moves a data set.

### NX

Unexclude a line from display.

### NXF

Unexclude the first of a set of excluded data sets.

### NXL

Unexclude the last of a set of excluded data sets.

### P

Prints the library or data set.

### PX

Prints an index listing.

**R**

Displays a panel, on which you can rename the library or data set.

**RA**

Adds a data set to a reference list.

**RS**

Resets statistical data.

**S**

Displays library or data set information in short format.

**U**

Uncatalogs the data set.

**V**

For a library or partitioned data set, displays a member list. You can then use the S command to select a member to view. For a sequential data set, displays the data set in view mode.

**X**

Excludes a data set from the list.

**Z**

Compresses a library or data set.

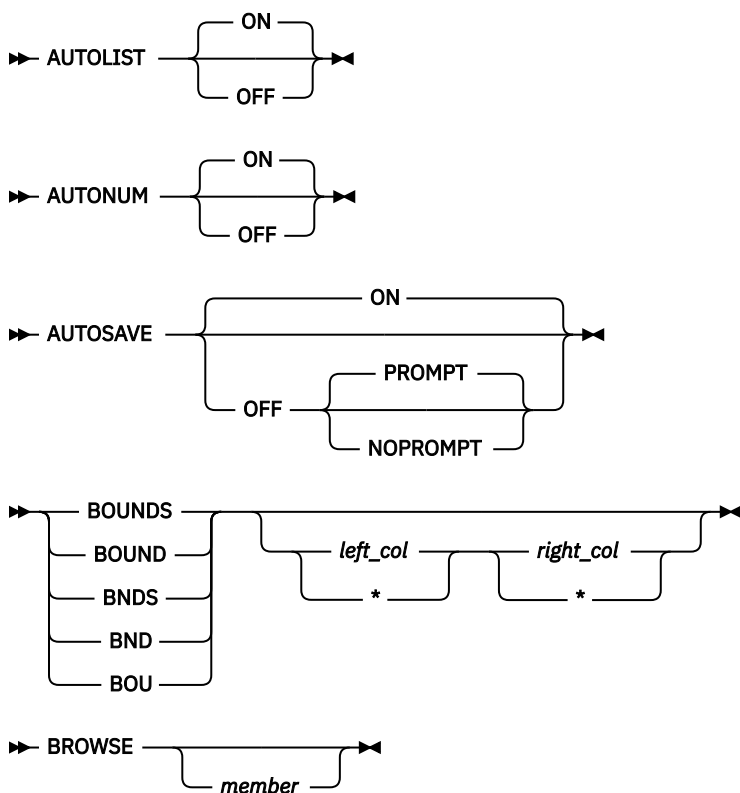
**=**

Repeats the last line command entered.

## PDF Edit and View commands

### Primary commands

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



➤ BUILTIN — *cmdname* ➤

➤ CANCEL ➤  
CAN

➤ CAPS { ON } ➤  
OFF

➤ CHANGE — *string1* — *string2* { .ZFIRST — .ZLAST } { NEXT } ➤  
CHA { labela — labelb }  
CHG  
C  
ALL  
FIRST  
LAST  
PREV

CHARS  
PREFIX X  
SUFFIX NX  
WORD  
*start\_col*  
*left\_col* — *right\_col*

➤ COLS { ON } ➤  
OFF

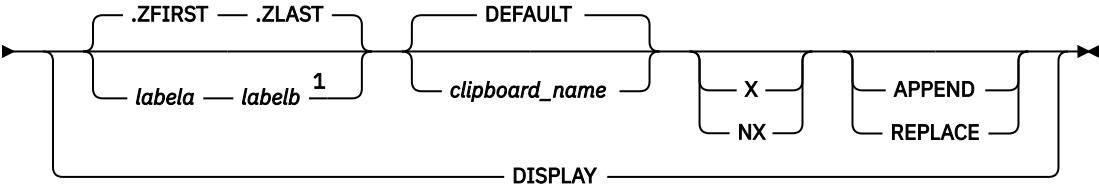
➤ COPY — { *member* } — { AFTER } — *label* — { *start\_line* — *end\_line* } ➤  
(*member*)  
BEFORE  
*dsname*  
*dsname(member)*  
*pathname*

➤ CREATE — { *member* } — { *labela* — *labelb* <sup>1</sup> } ➤  
CRE  
(*member*)  
*dsname(member)*  
*dsname*  
*pathname*

Notes:

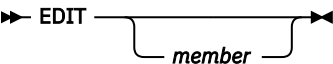
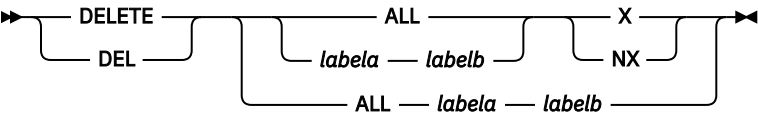
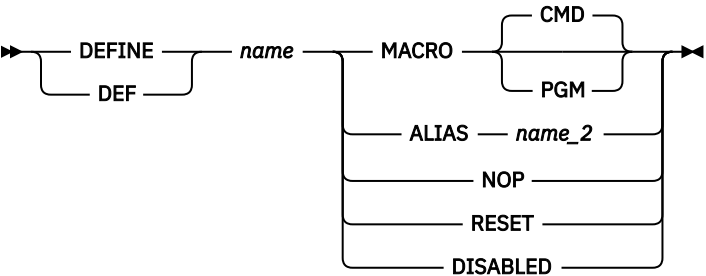
<sup>1</sup> If you don't specify the group of lines using labels, you must specify the group by using C or M line commands.

➤➤ CUT ➡

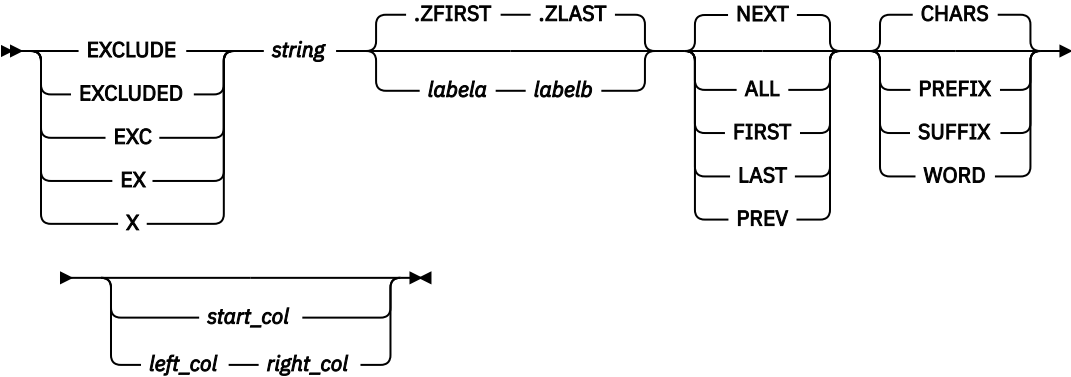


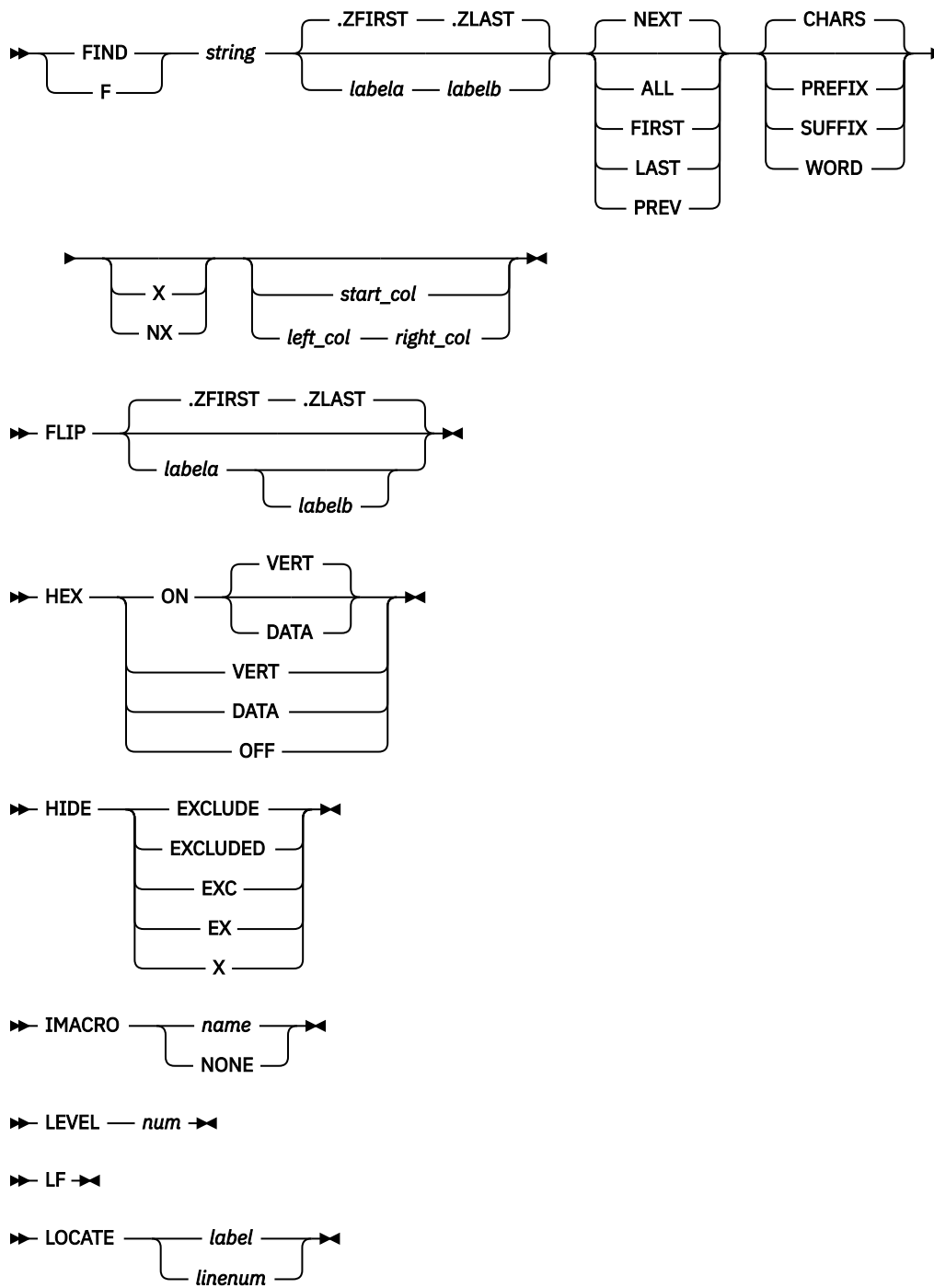
Notes:

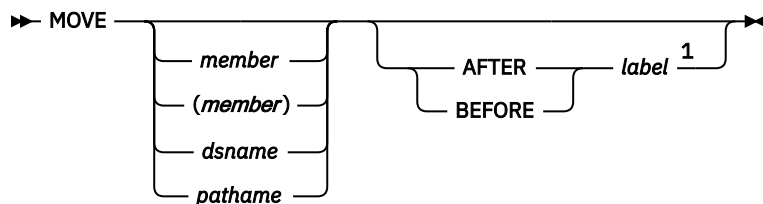
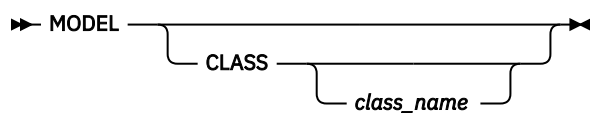
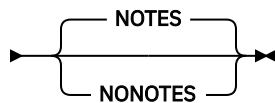
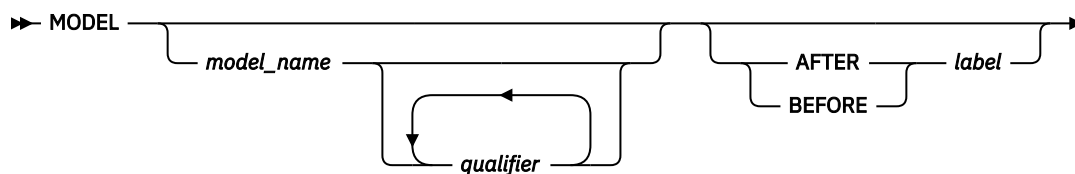
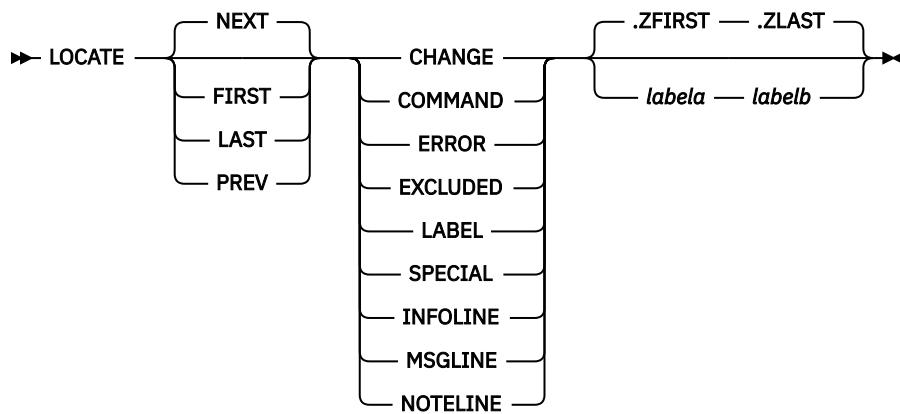
<sup>1</sup> You can also specify the group of lines using C or M line commands.



➤➤ END ➡➡

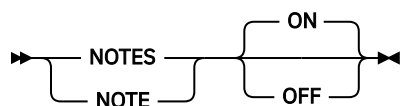
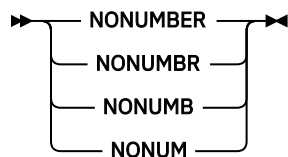


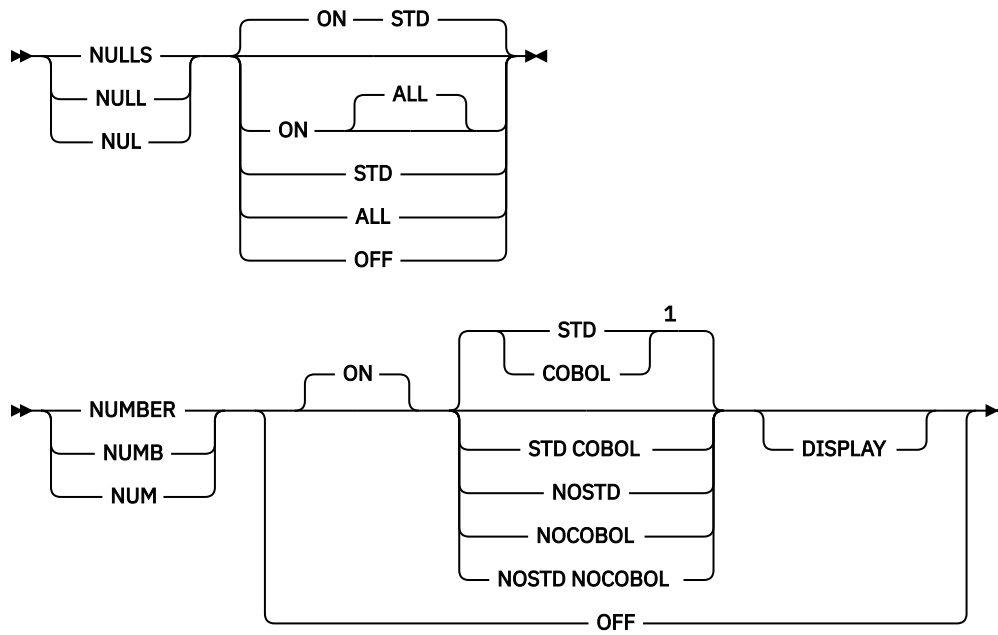




Notes:

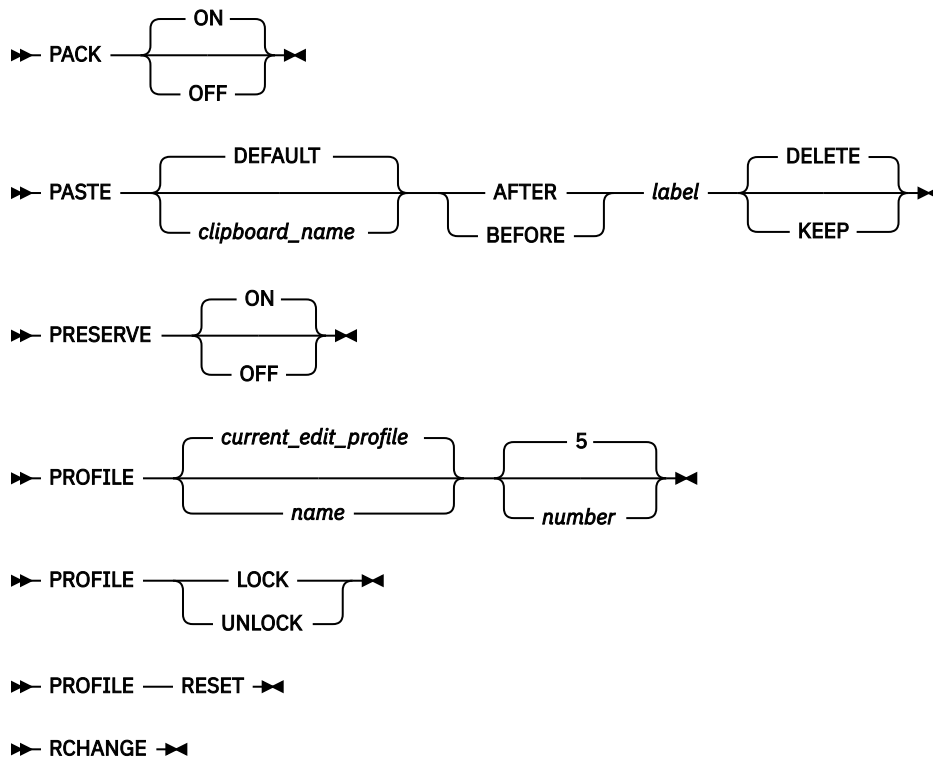
<sup>1</sup> If you don't specify the position using a label, you must specify the position by using an A or B line command.

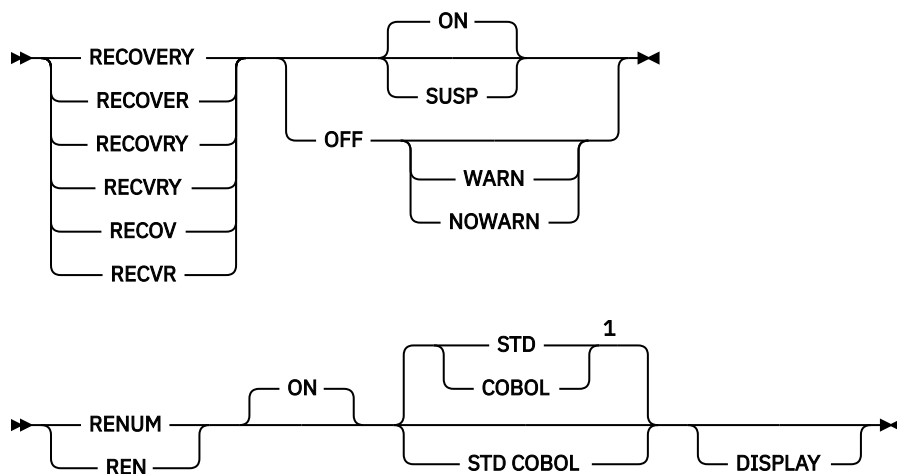




Notes:

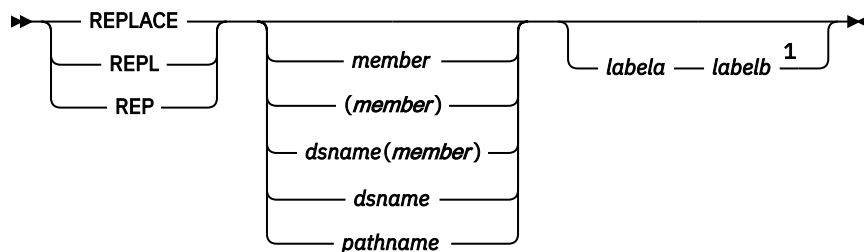
<sup>1</sup> STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.





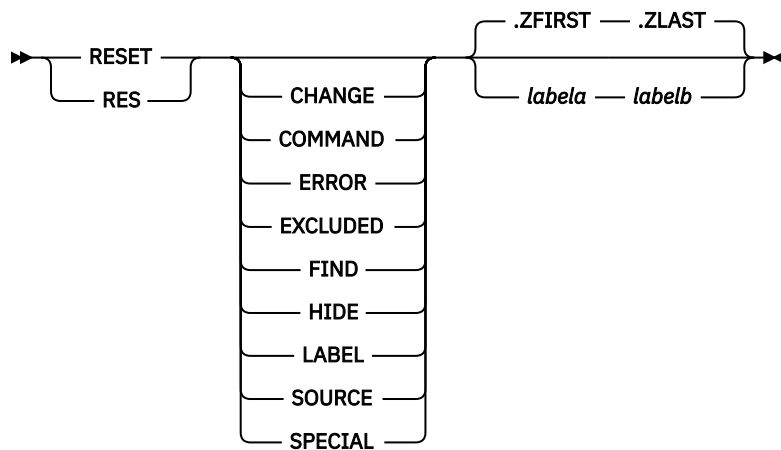
Notes:

<sup>1</sup> STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.

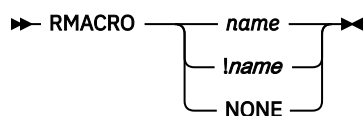


Notes:

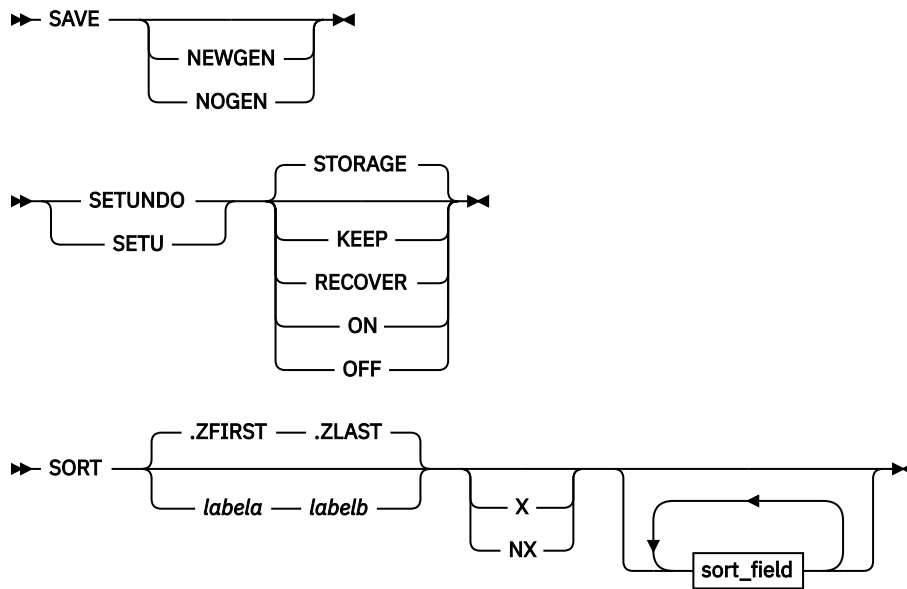
<sup>1</sup> If you don't specify the group of lines using labels, you must specify the group by using C or M line commands.



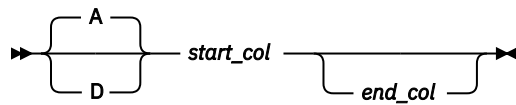
➡ RFIND ➡



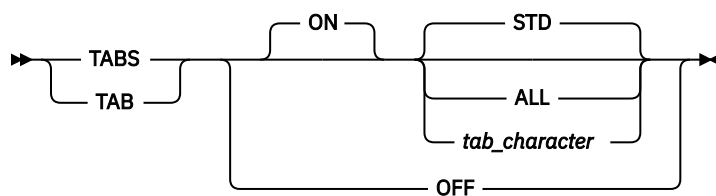
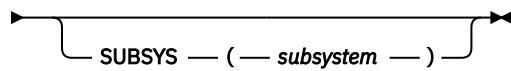
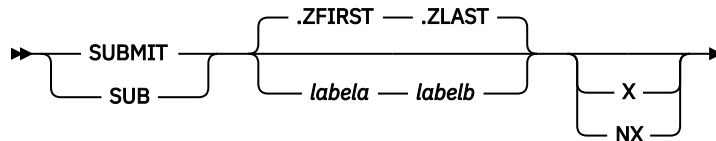
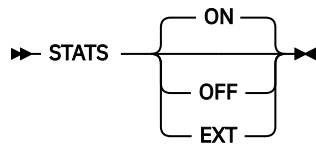




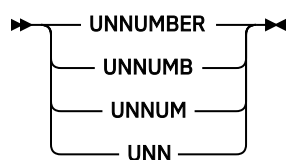
**sort\_field:**

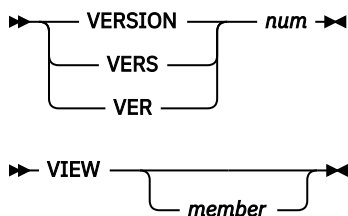


**SOURCE** — *character\_encoding* →



**UNDO** →

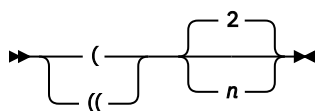




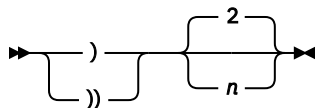
## Line commands

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:

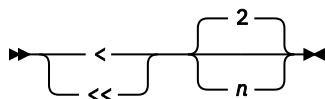
- The shift commands, which default to 2 column positions
- The TE command, which defaults to the number of lines remaining on the screen
- The TF command, which defaults to the current right boundary.



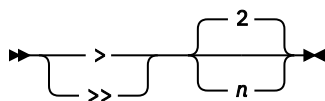
Shifts columns left the specified number of positions



Shifts columns right the specified number of positions



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



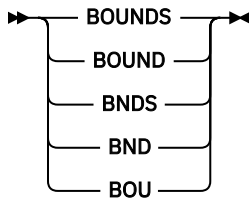
Shifts data right the specified number of positions (default 2).



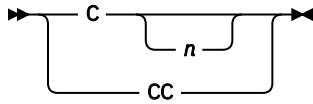
Identifies the line after which copied, moved, or model lines are to be inserted.



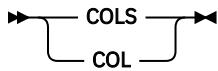
Identifies the line before which copied, moved, or model lines are to be inserted.



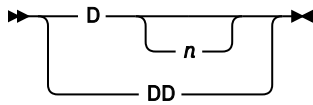
Displays the column boundary definition line.



Copies one or more lines from one location to another.



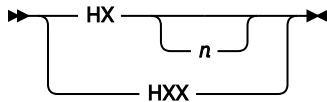
Displays a position identification line.



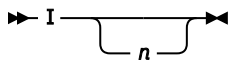
Deletes one or more lines.



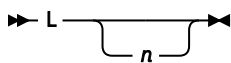
Redisplays one or more lines at the beginning of a block of excluded lines.



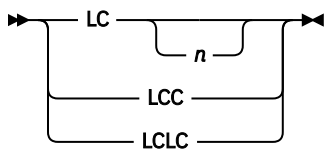
Displays characters in hexadecimal format.



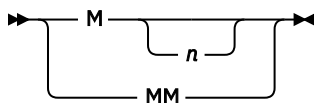
Inserts a blank data entry line.



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



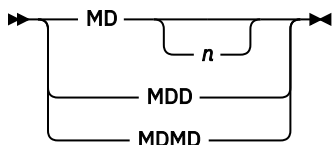
Converts all uppercase alphabetic characters in one or more lines to lowercase.



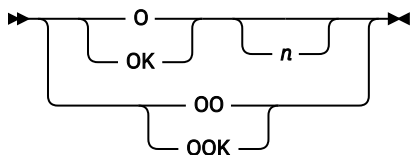
Moves one or more lines from one location to another.

➤ MASK ➤

Displays the contents of the mask when used with the I (insert), TE (text entry), and TS (text split) line commands.



Makes NOTE, MSG, INFO, and COLS lines into data lines.



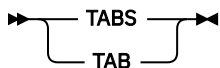
Rearranges a single column list of items into multiple column, or tabular, format.



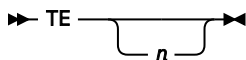
Repeats one or more lines.



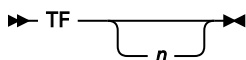
Redisplays one or more lines with the leftmost indentation in a block of excluded lines.



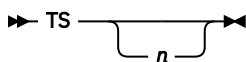
Displays the tab definition line.



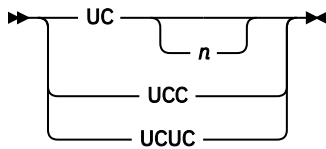
Inserts blank lines to allow power typing for text entry.



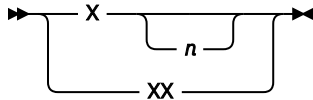
Restructures paragraphs following deletions, insertions, splitting, and so forth.



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 1. Picture search strings - special characters for string-1	
String	Character
P '='	Any character
P '¬'	Any character that is not a blank
P '.'	Any character that cannot be displayed
P '#'	Any numeric character, 0-9
P '-'	Any nonnumeric character
P '@'	Any alphabetic character, uppercase or lowercase
P '<'	Any lowercase alphabetic character
P '>'	Any uppercase alphabetic character
P '\$'	Any special character, neither alphabetic nor numeric.

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

Table 2. Picture search strings - additional characters	
String	Character
P '␣'	Any APL-specific or TEXT-specific character
P ' _ '	Any underscored nonblank character.

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

Table 3. Picture search strings - special characters for string-2	
String	Character
P '='	Equal to the corresponding character in string-1
P '>'	Converts the corresponding character in string-1 to uppercase
P '<'	Converts corresponding character in string-1 to lowercase.

**Character search string format**

<i>Table 4. Character search string format</i>	
<b>String</b>	<b>Character</b>
Simple string:	cccccc (no embedded blanks or commas)
Delimited string:	' ccccc ' or " ccccc "
Hex string:	X ' hhhh ' or ' hhhh ' X
Text string:	T ' cccc ' or ' cccc ' T
Picture string:	P ' ssss ' or ' ssss ' P
Character string:	C ' cccc ' or ' cccc ' C
Previous string:	* (single asterisk)

---

## Chapter 2. Dialog development information

This topic contains information relevant to dialog developers.

### Invoking the ISPF DTL conversion utility

---

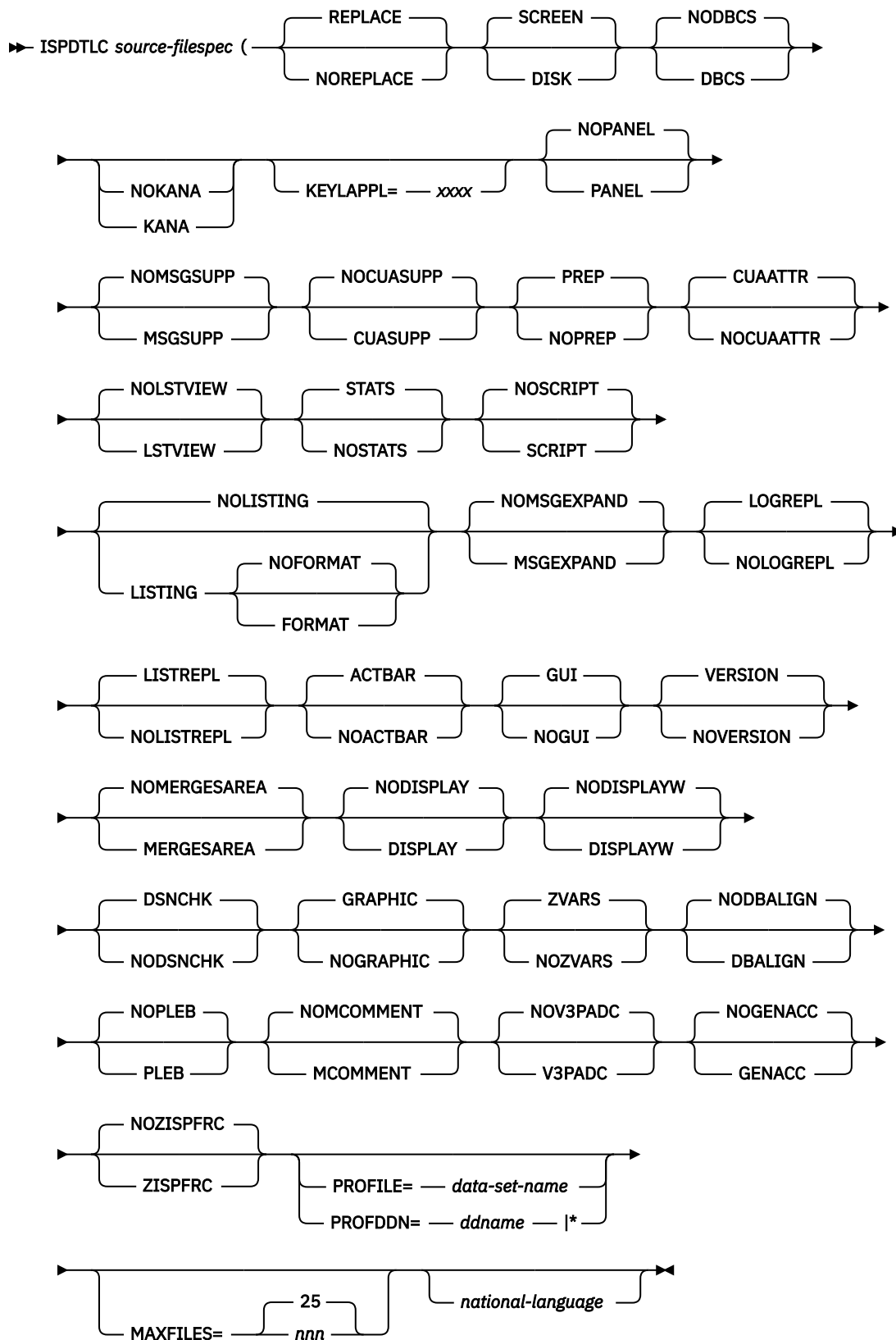
```
ISPD TLC      (for interactive interface)
```

```
OR
```

```
ISPD TLC ?    (for help information)
```

```
OR
```

```
(command syntax)
```



## 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

►► )CCSID — NUMBER( *ccsid-number* ) ◄◄

## Panel Section

The diagram illustrates the syntax for various SQL aggregate functions. Each function is represented by a horizontal line with brackets indicating the positions of its arguments:

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

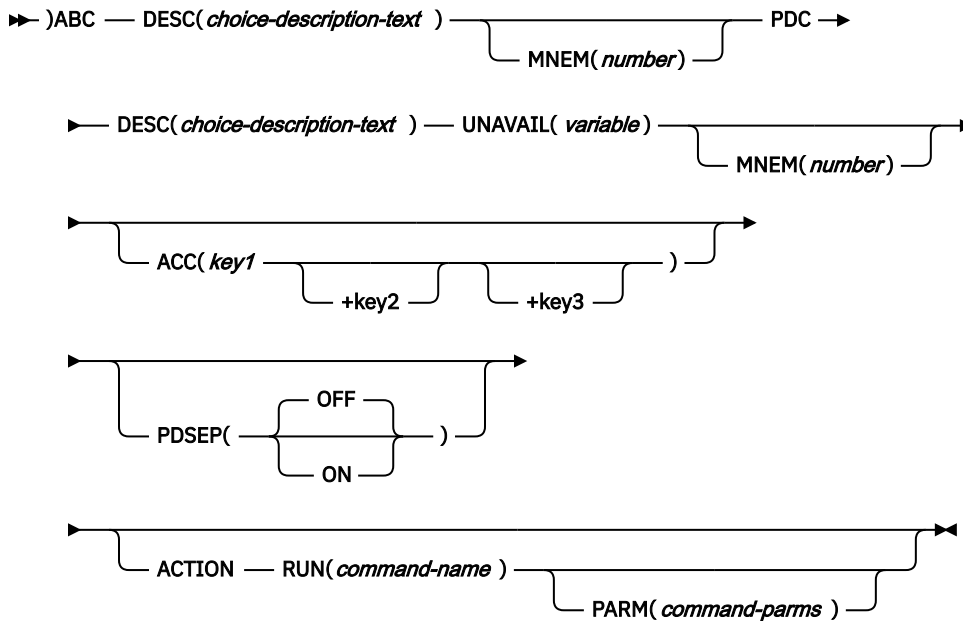
## Attribute Section

```

)ATTR (
  DEFAULT (def1 def2 def3)
  FORMAT (EBCDIC DBCS MIX)
  OUTLINE (NONE L R O U BOX)
)

```

## Action Bar Choice Section



## Action Bar Choice Initialization Section

➤ )ABCINIT ➤

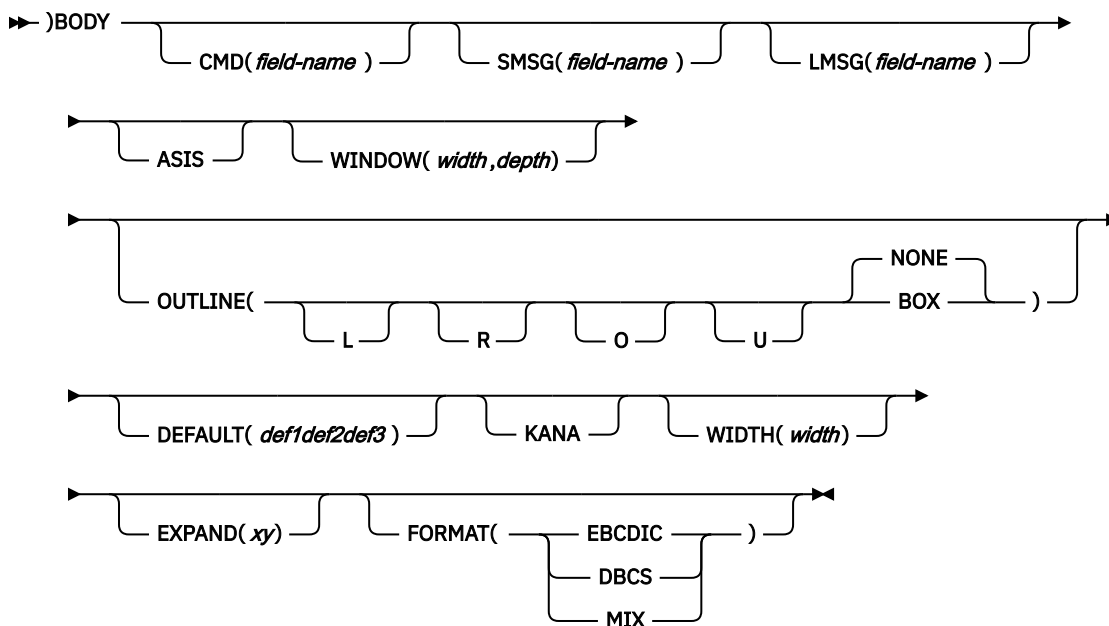
**Note:** Only valid when the Action Bar Choice section is specified.

## Action Bar Choice Processing Section

➤ )ABCPROC ➤

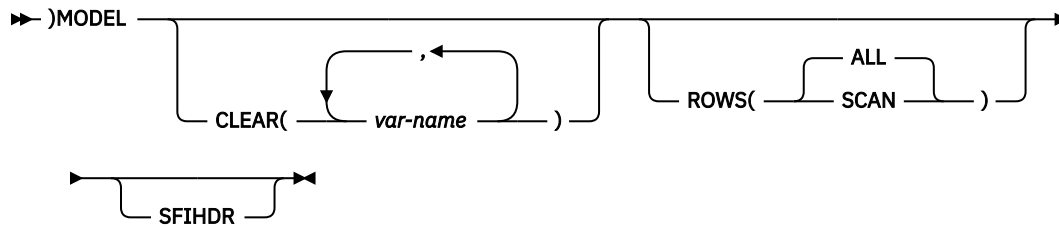
**Note:** Only valid when the Action Bar Choice section is specified.

## Body Section

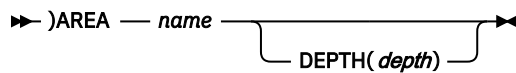


**Note:** All keywords must be specified on the same panel line.

## Model Section



## Area Section



## Initialization Section



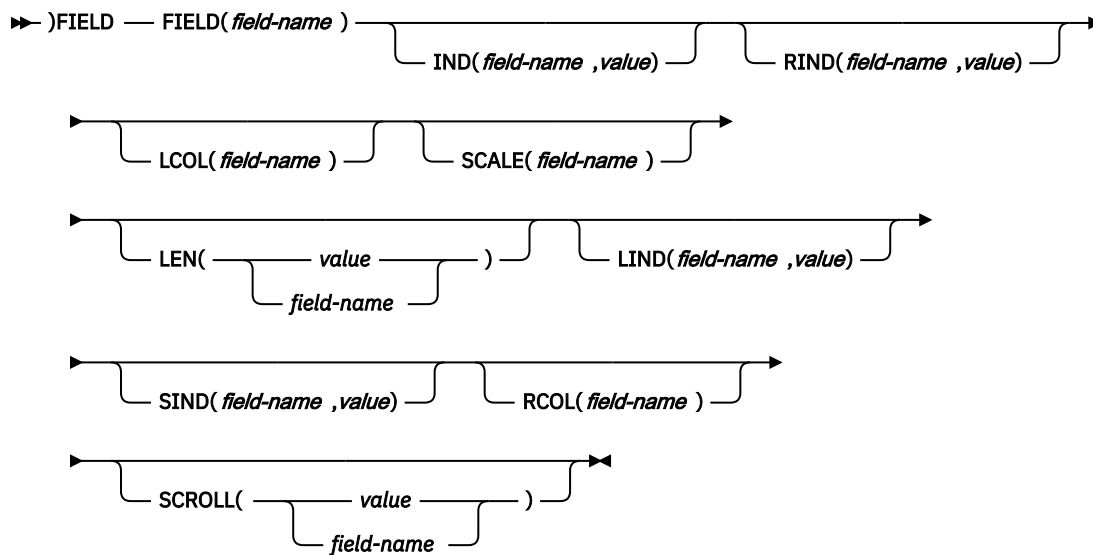
## Reinitialization Section



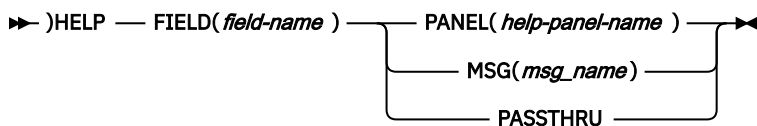
## Processing Section



## Field Section



## Help Section



## List Section

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

`)PNTS FIELD( field-name ) VAR( variable ) VALUE( value )`

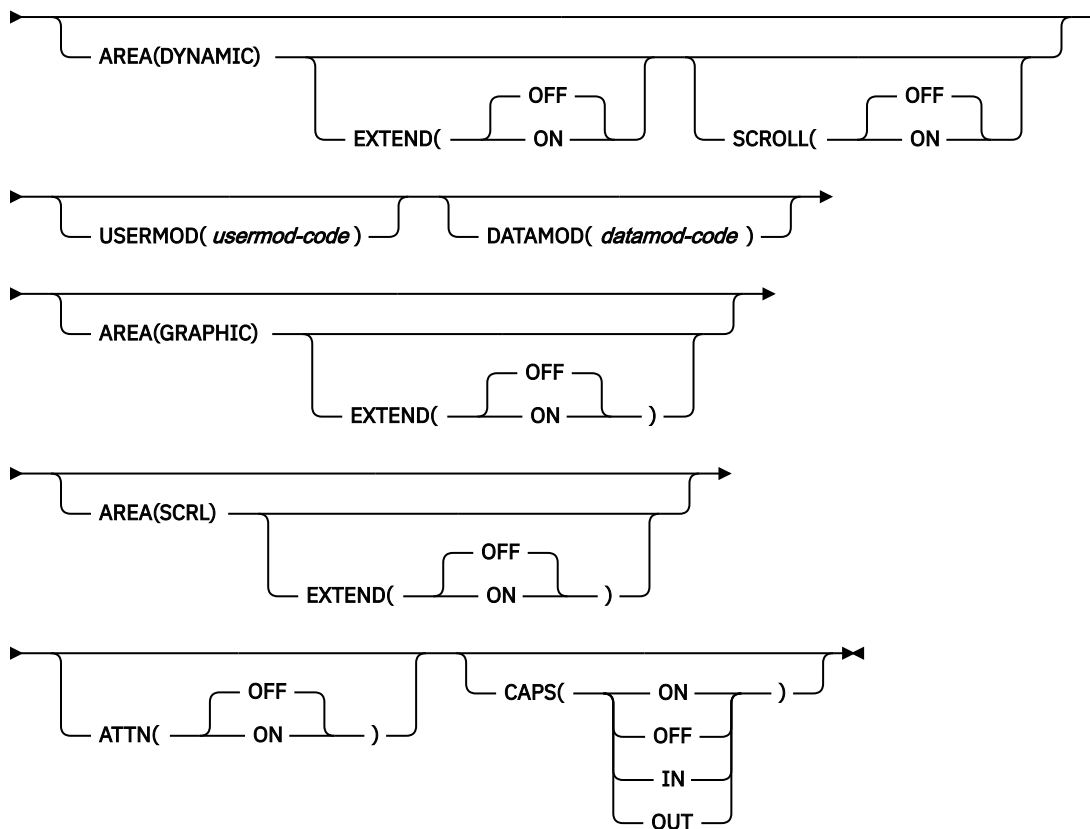


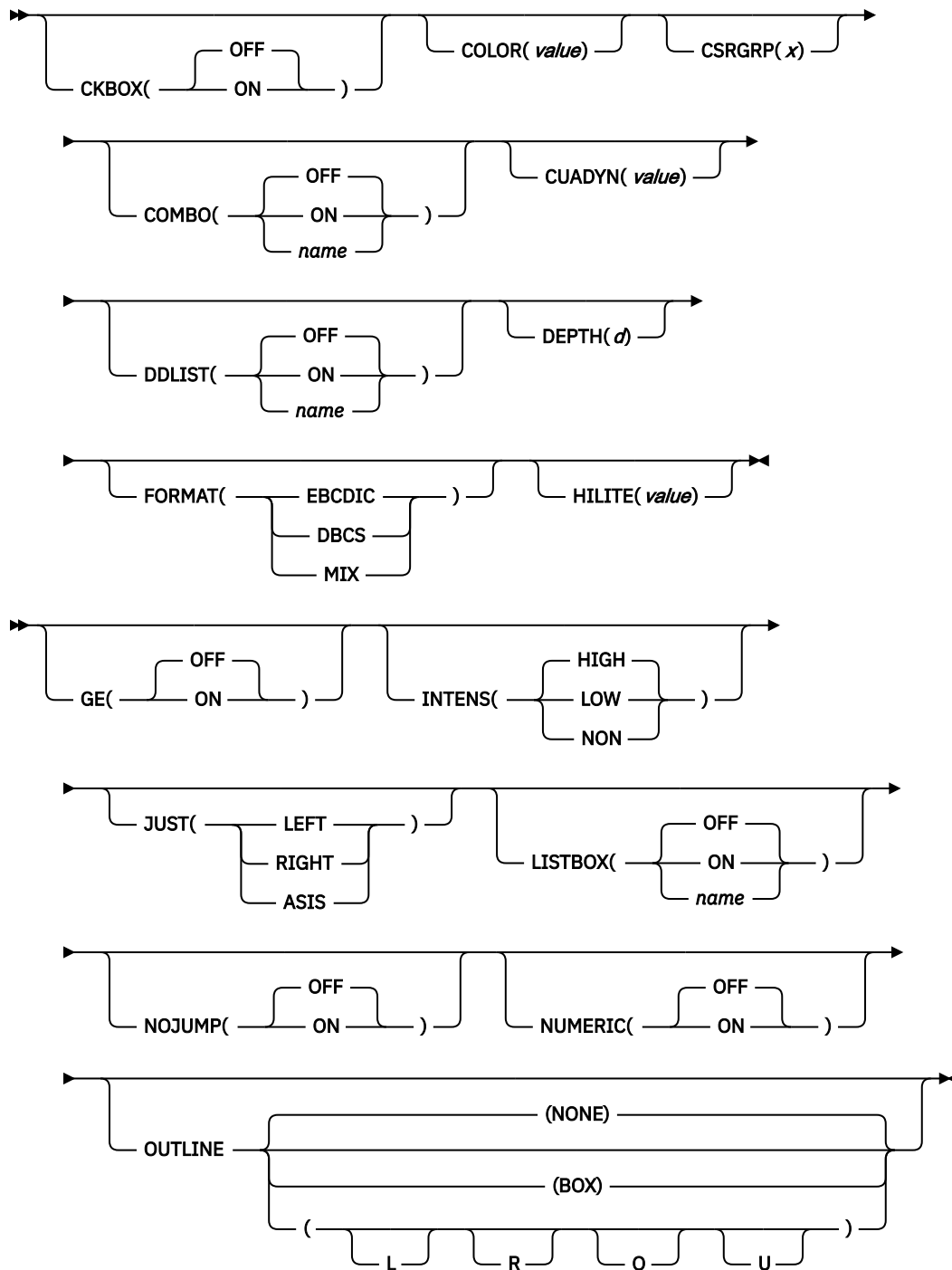
`)END`

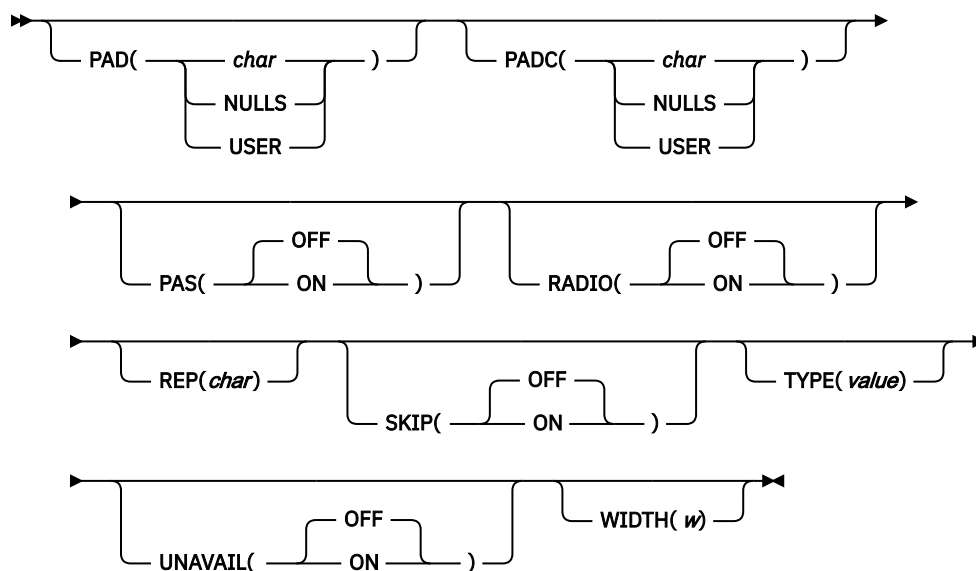
## Panel statements and built-in functions

### Attribute section

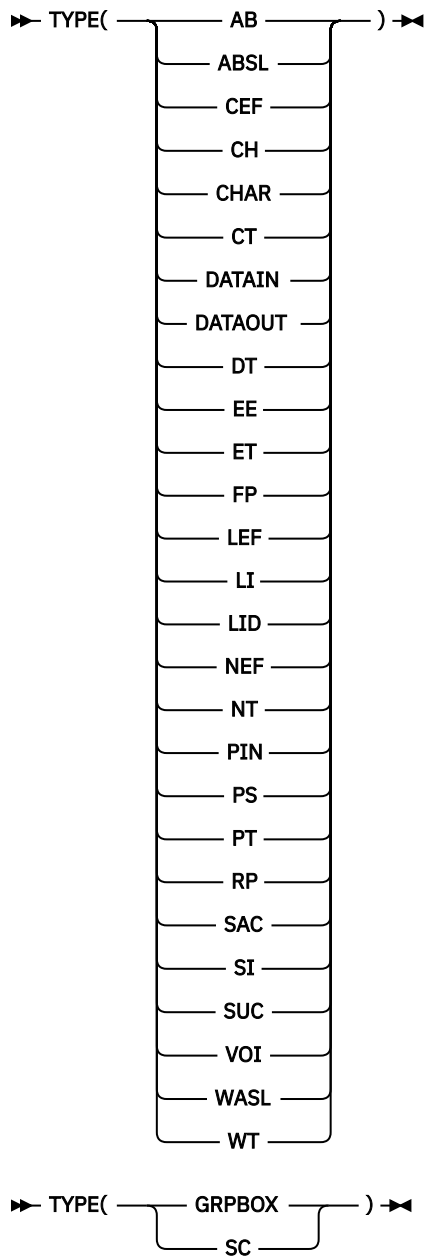
`attrchar`







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



## CUA attribute **TYPE** values

**TYPE Value**  
**Description**

### **AB**

Action Bar Unselected Choices

### **ABSL**

Action Bar Separator Line

### **CEF**

Choice Entry Field

### **CH**

Column Heading

### **CHAR**

Character attributes in a dynamic area

**CT**

Caution Text

**DATAIN**

Input (unprotected) field in a dynamic area

**DATAOUT**

Output (protected) field in a dynamic area

**DT**

Descriptive Text

**EE**

Error Emphasis

**ET**

Emphasized Text

**FP**

Field Prompt

**GRPBOX**

Group Box

**INPUT**

Input (unprotected) field

**LEF**

List Entry Field

**LI**

List Items

**LID**

List Item Description

**NEF**

Normal Entry Field

**NT**

Normal Text

**OUTPUT**

Output (protected) field

**PIN**

Panel Instruction

**PS**

Point-and-Shoot

**PT**

Panel Title

**RP**

Reference Phrase

**SAC**

Select Available Choices

**SC**

Selected choice

**SI**

Scroll Information

**SUC**

Select Unavailable Choices

**TEXT**

Text (protected) field

**VOI**

Variable Output Information

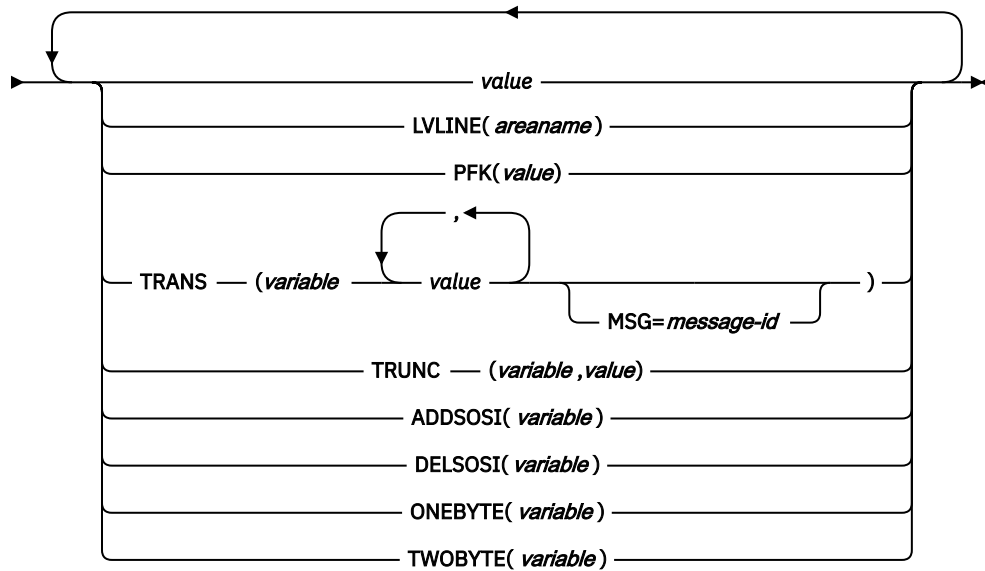


**WASL**

Work Area Separator Line

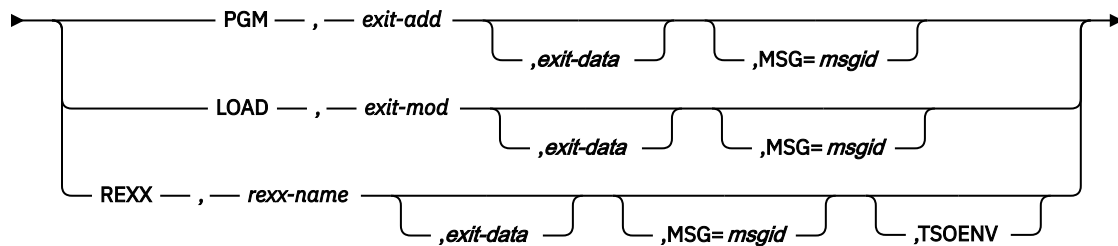
**WT**

Warning Text

**Initialization, Reinitialization, and Processing sections**➤ *variable* — = — ➤➤ GOTO — *label* ➤

➤ IF — ( *variable* — *operator* — *value* ) — ELSE — EXIT ➤

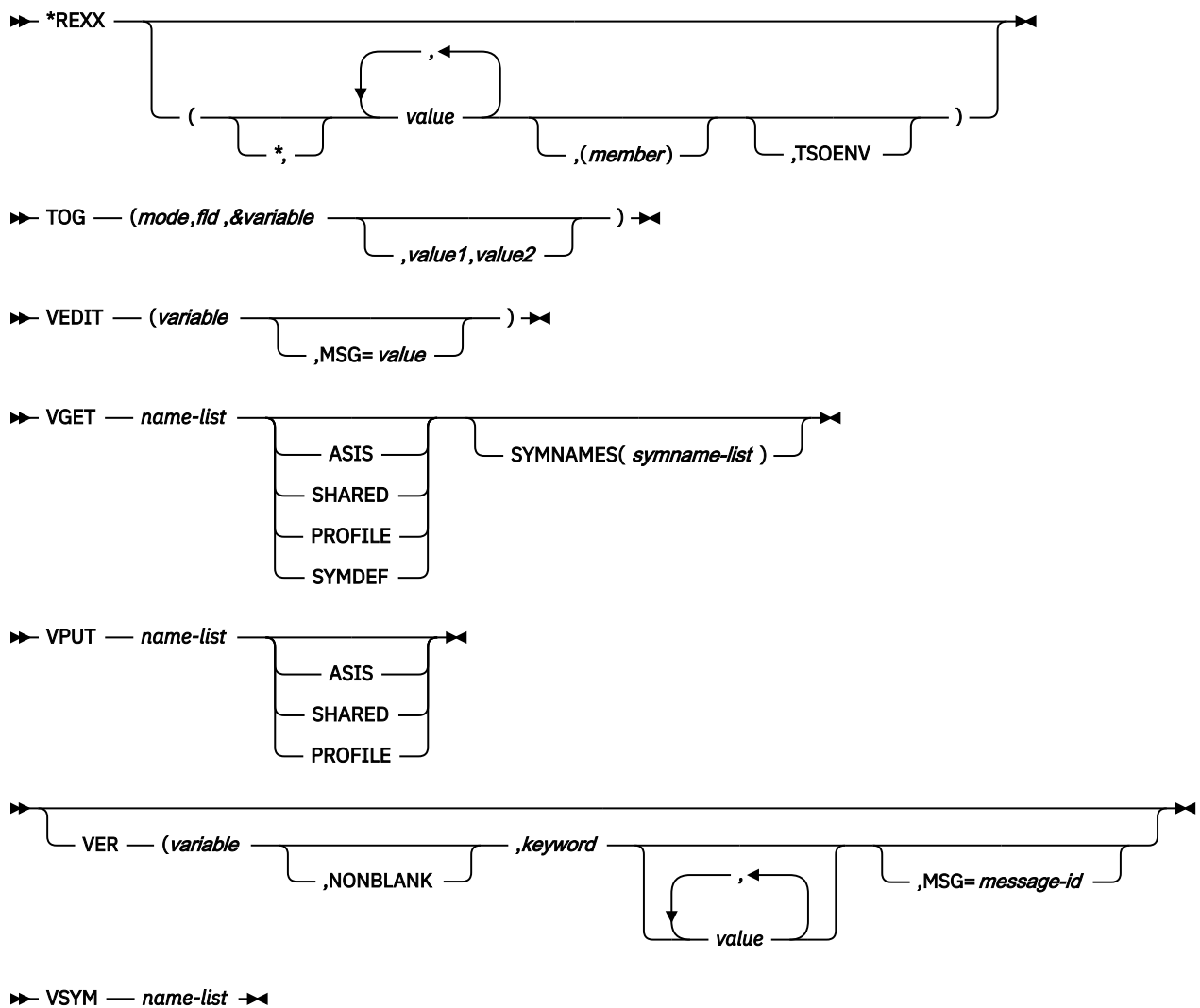
➤ PANEXIT — (( — *value* — ), ➤



➤ ) ➤

➤ REFRESH( — *field* — ) ➤

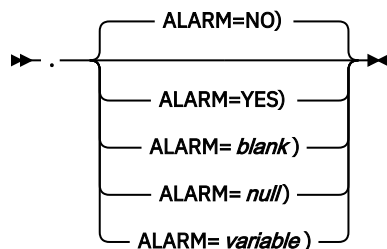
## Panel definition statements and functions



## VER keywords

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

## Panel control variables



➤➤ .ATTR(*field*) — = — ' — keyword(*value*) — ' ➤➤

➤➤ .ATTRCHAR(*char*) — = — ' — keyword(*value*) — ' ➤➤

➤➤ . — { — AUTOSEL=YES) — } ➤➤

➤➤ . — { — AUTOSEL=NO) — } ➤➤

➤➤ .CSRPOS =*cursor-position* ➤➤

➤➤ .CSRROW =*table-row-number* ➤➤

➤➤ .CURSOR =*field-name* ➤➤

➤➤ .HELP =*panel-name* ➤➤

➤➤ .MSG =*message-id* ➤➤

➤➤ .NRET — = — { — ON — } ➤➤

➤➤ .NRET — = — { — OFF — } ➤➤

➤➤ .NRET — = — { — DSN — } ➤➤

➤➤ .NRET — = — { — LIB — } ➤➤

➤➤ .PFKEY = <sup>1</sup> ➤➤

Notes:

<sup>1</sup> Contains function key pressed by user (PF01,PF02, ...,PF24).

➤➤ .RESP — = — { — ENTER — } ➤➤

➤➤ .RESP — = — { — END — } ➤➤

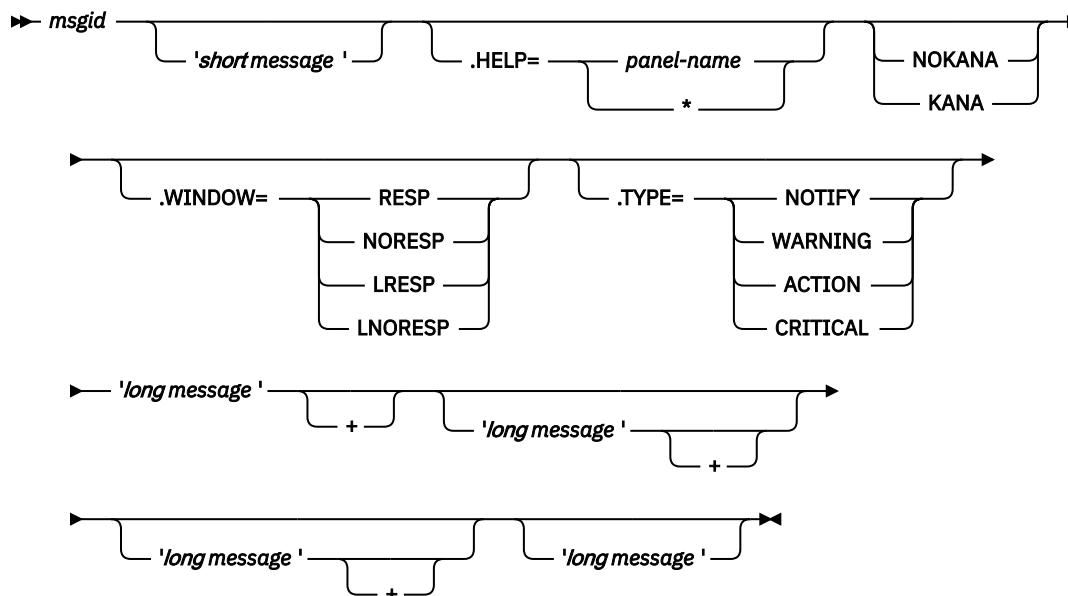
➤➤ .TRAIL = <sup>1</sup> ➤➤

Notes:

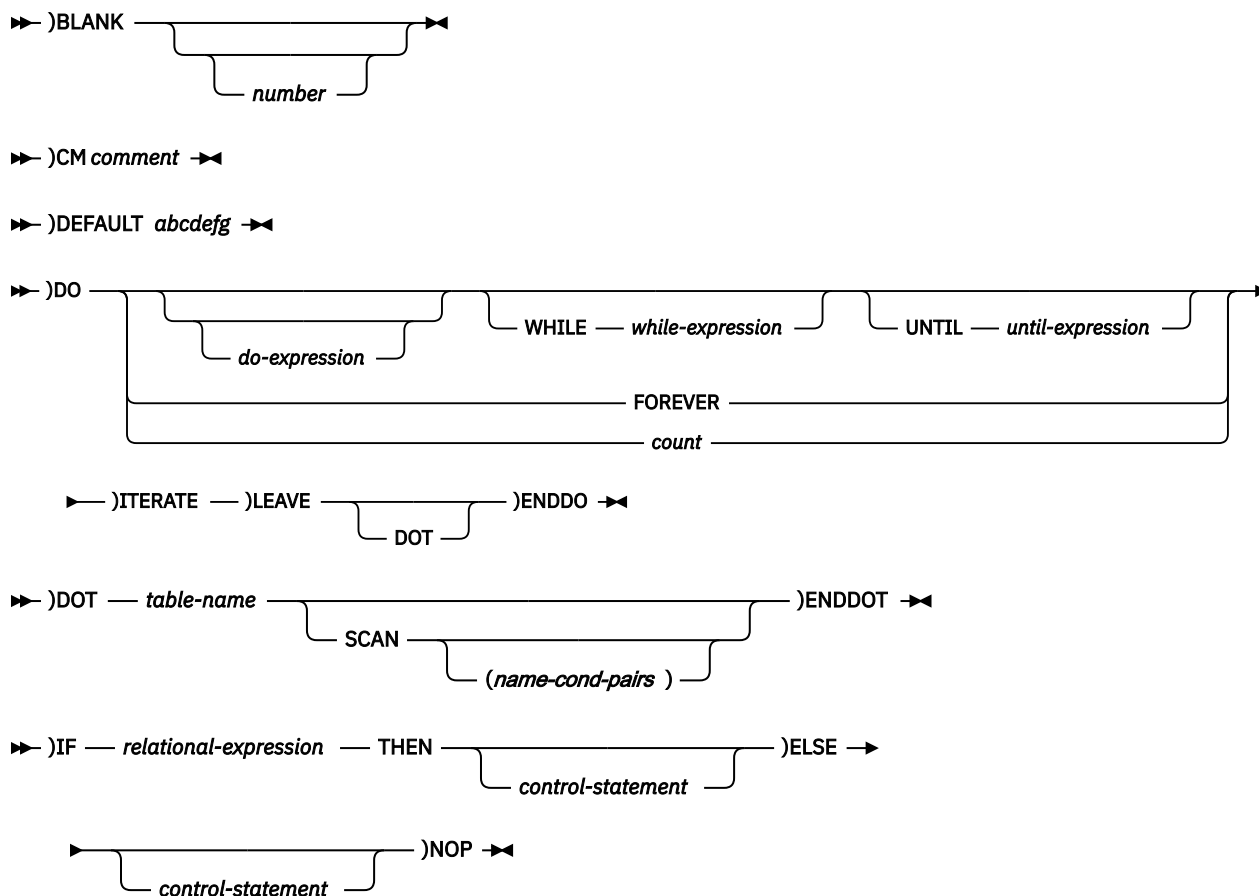
<sup>1</sup> Contains remainder from TRUNC operation.

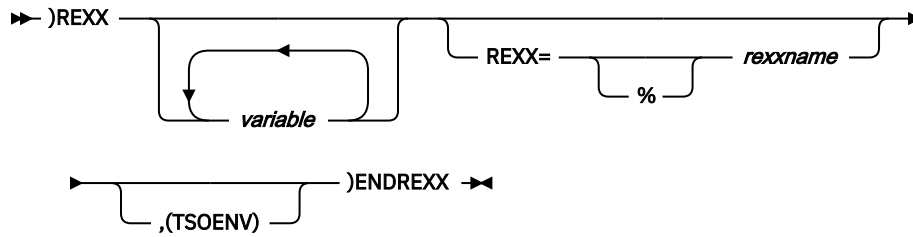
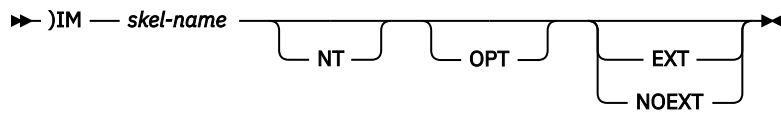
➤➤ .ZVARS = '*name-list*' ➤➤

## Message definitions



## Skeleton control statements

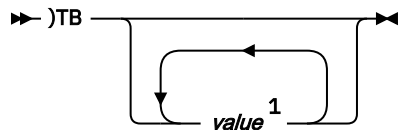




➤➤ )SEL — *relational-expression* — )ENDSEL ➤➤

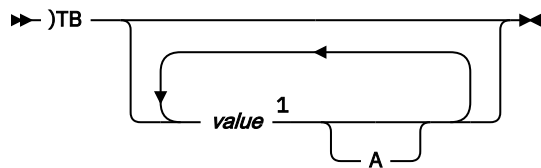
➤➤ )SET — *variable* — = — *expression* ➤➤

➤➤ )SETF — *variable* — = — *expression* ➤➤



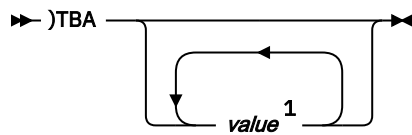
Notes:

<sup>1</sup> Maximum of 16 values.



Notes:

<sup>1</sup> Maximum of 16 values.



Notes:

<sup>1</sup> 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 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:

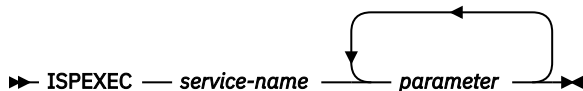
```
CALL ISPLINK ('DISPLAY ', ' ', ' ', cursor-field-name, cursor-position, ' ', ' ', ret-length-name);
```

## Command format

This section describes the general format for ISPF services.

### ISPEXEC command invocation

The general format for a command invocation is:



### ISPEXEC parameter conventions

#### service-name

Alphabetic; up to 8 characters long.

#### parameter1

Positional parameter; required for some services.

#### parameter2 parameter3 ...

Keyword parameters. They can take either of two forms:

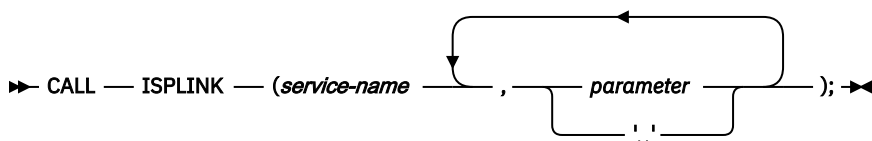
```

keyword
or
keyword(value)

```

### The ISPLINK interface

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



### CALL ISPLINK 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

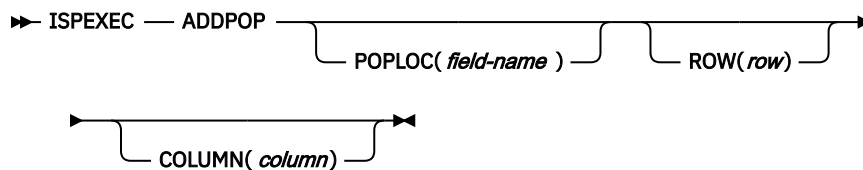
Specifies a buffer containing the name of the service and its parameters just as they would appear in an ISPEXEC invocation for a command invocation written in CLIST.

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

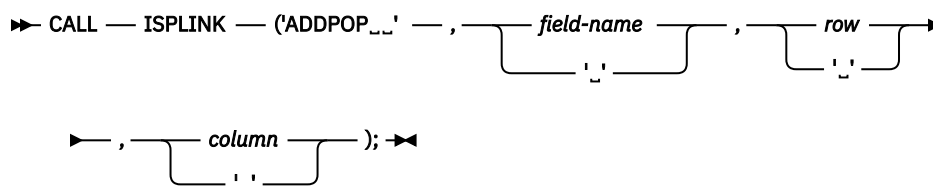
### Command invocation format



### Call invocation format

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

OR



### Return codes

**0**

Normal completion.

**12**

An ADDPOP service call was issued before a 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 →

➤ , { 'ISRBROBA' — panel-name — '...' } , format-name — , { 'NO_' — '...' — 'YES' } →

➤ , { 'EXTEND_...' — '...' } ); ➤

```

### 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**  
ISPF 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.

16

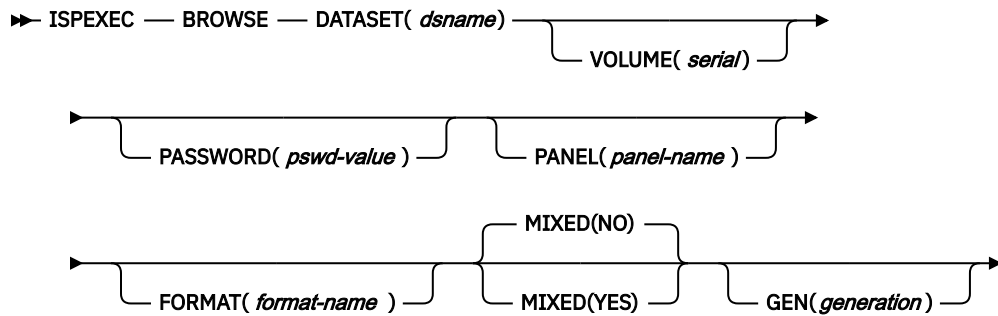
Unexpected return code received from a dialog-supplied routine; unable to continue. When an unexpected return code is received, the BRIF service terminates immediately with a return code of 16.

20

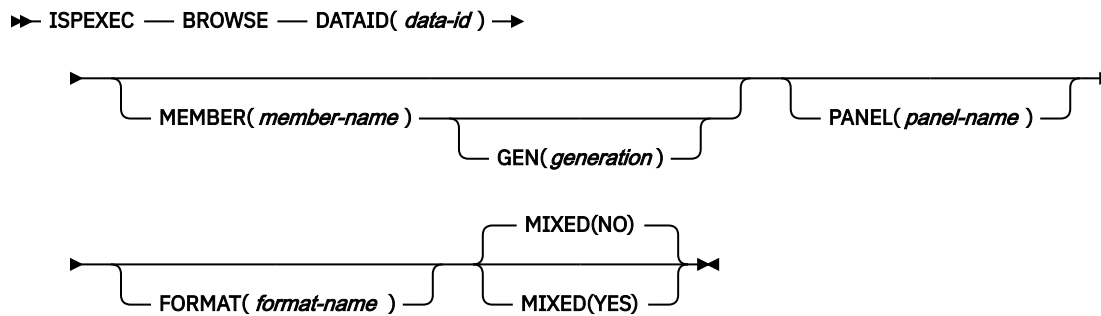
Severe error; unable to continue.

## BROWSE—Browse a data set

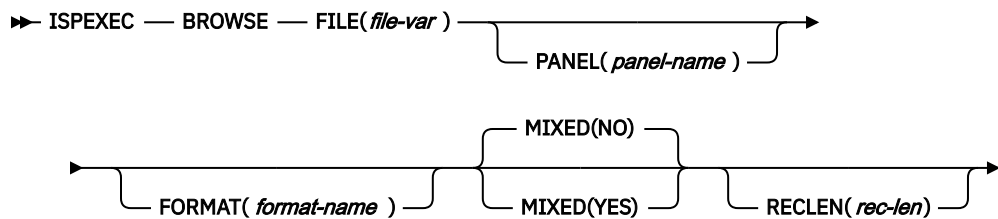
## Command invocation format



*OR*



*OR*



**Call invocation format**

```

➤ CALL — ISPLINK — ('BROWSE_...' — , dsname , serial →
                                     ' '
                                     ' '

➤ , pswd-value , panel-name , data-id →
      ' '          ' '          ' '

➤ , member-name , format-name , { 'NO_'
                                     ' '
                                     '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**

Either:

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

**18**

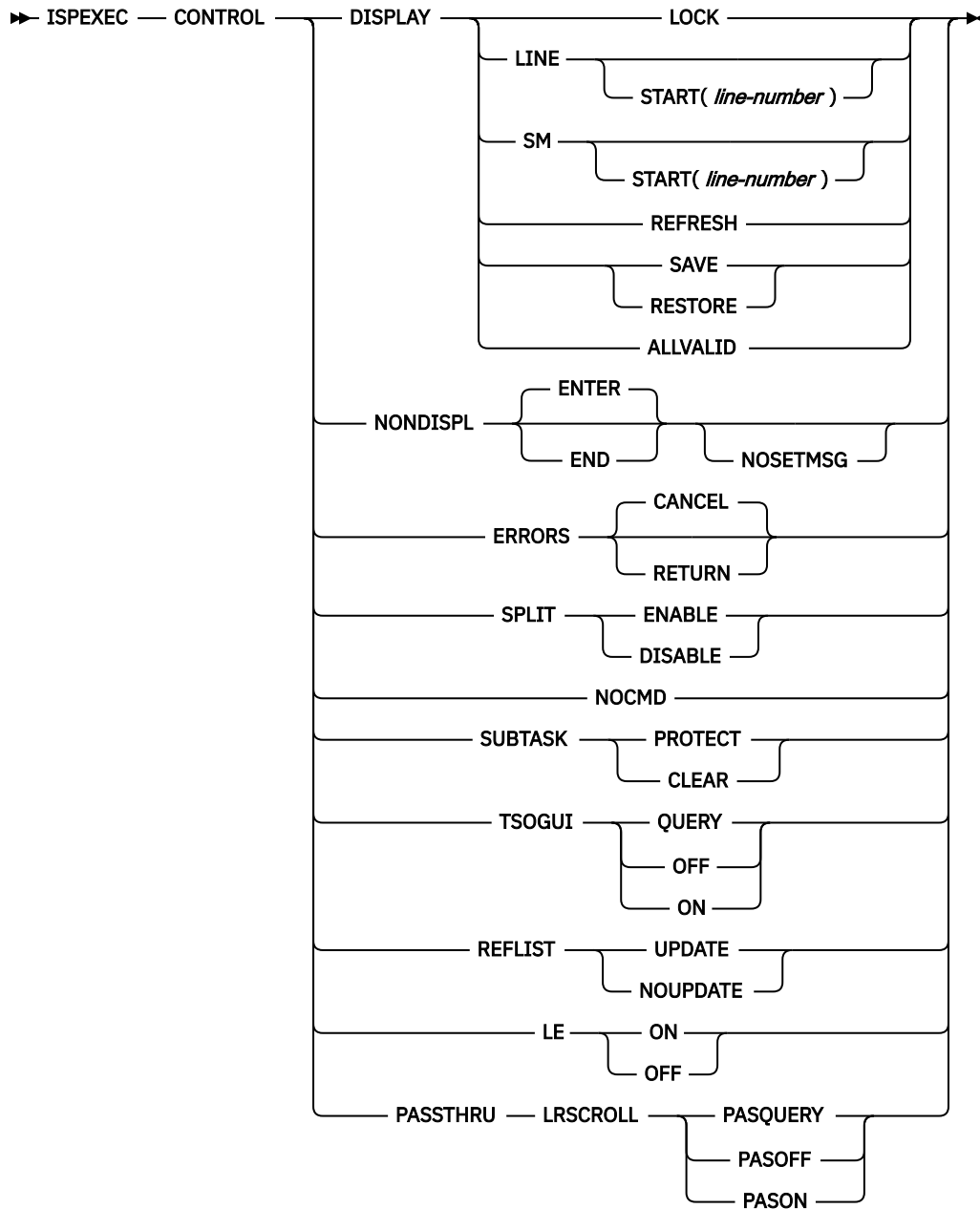
A VSAM data set was specified but the ISPF Configuration Table does not allow VSAM processing.

**20**

Severe error; unable to continue.

## CONTROL—set processing modes

### Command invocation format

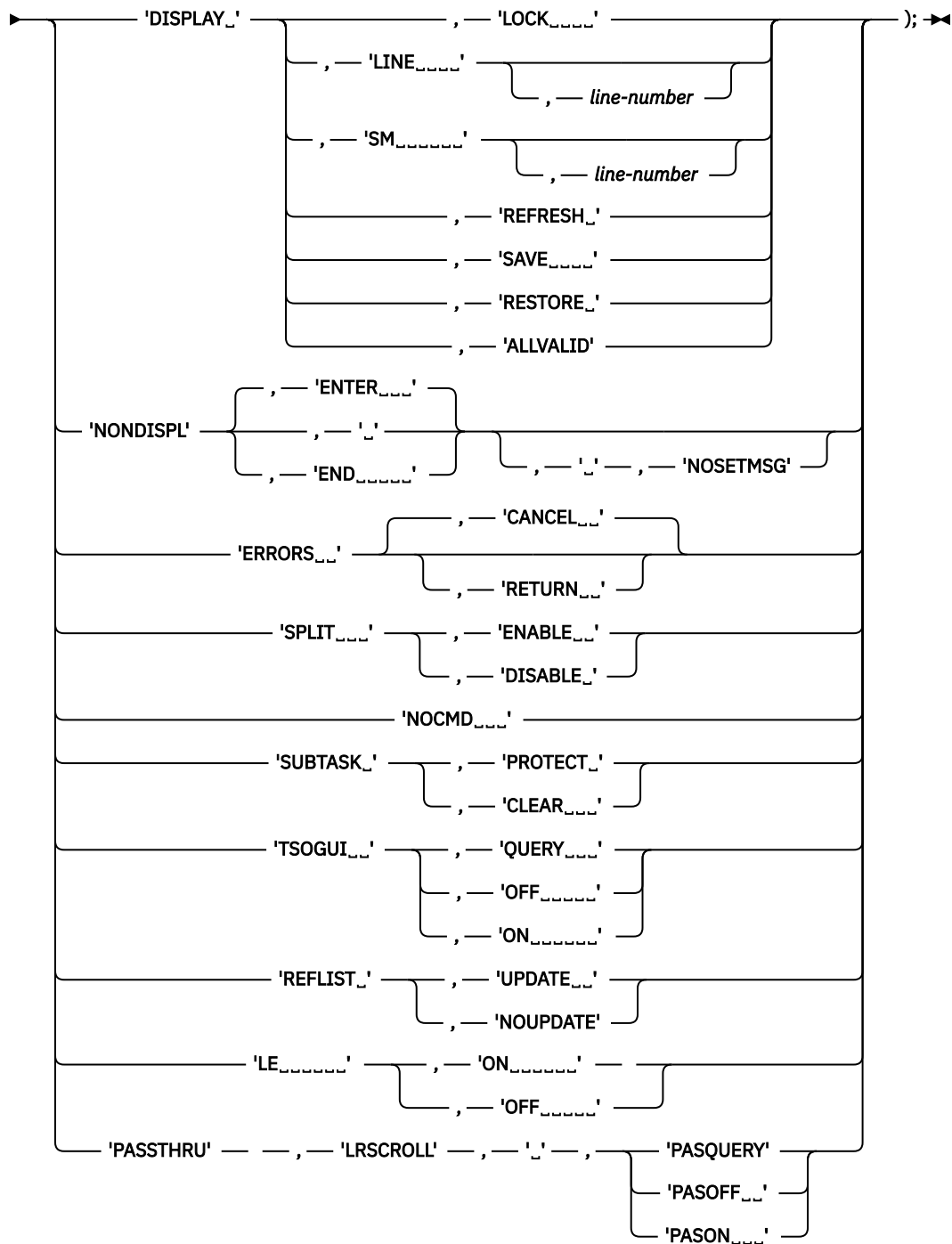


### Call invocation format

➤ CALL — ISPEXEC — (*buf-len*, — *buffer*); ➤

OR

➤ CALL — ISPLINK — ('CONTROL\_' — , — ➤



## Return codes

**0**

Normal completion.

**8**

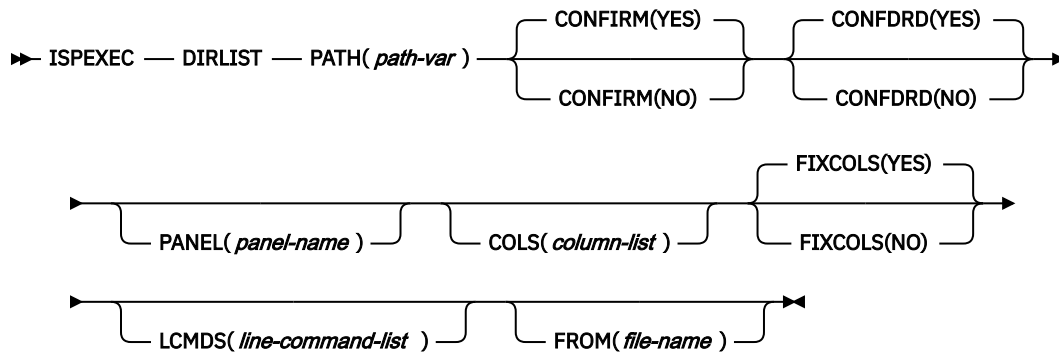
Split-screen mode already in effect. Applies only to a SPLIT DISABLE request. Split-screen mode remains enabled.

**20**

Severe error.

## DIRLIST—directory list service

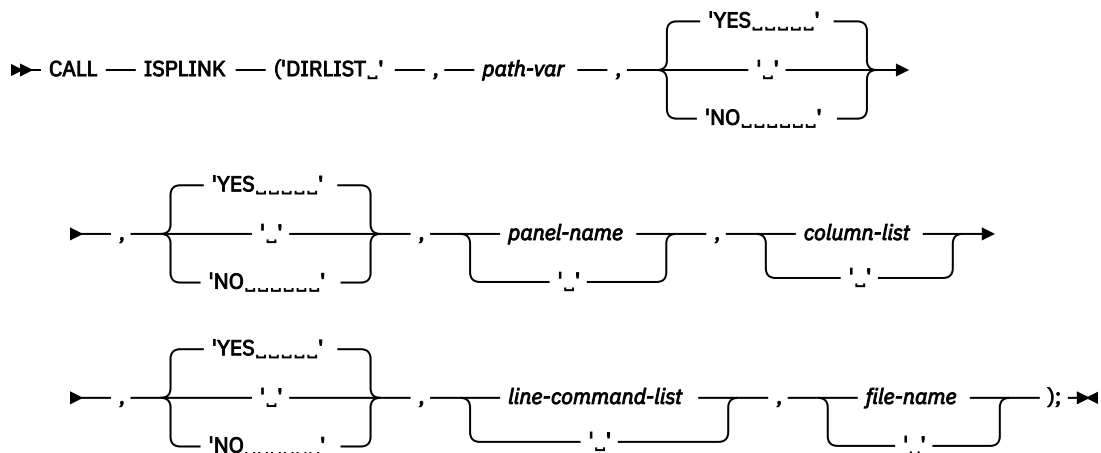
### Command invocation format



### Call invocation format

► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►

OR

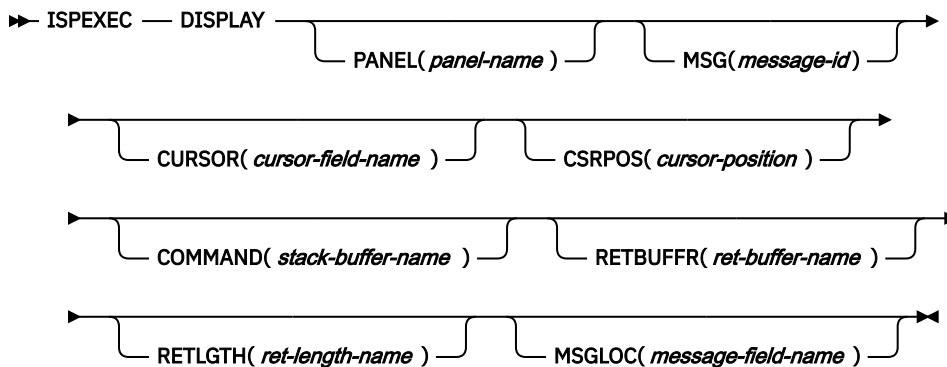


### Return codes

- 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

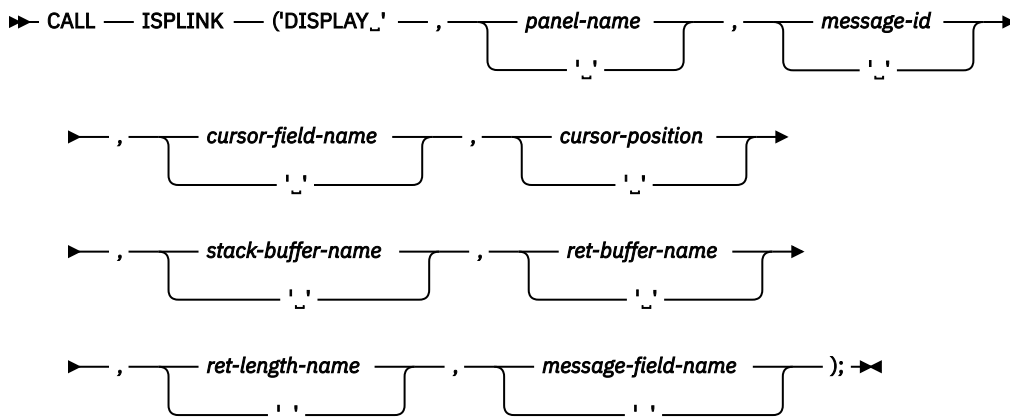
### Command invocation format



### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►◄

OR



### 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 using the END or RETURN command. If CANCEL and EXIT are requested from a panel displayed using the DISPLAY service call and the panel was defined with the dialog tag language (DTL), the dialog manager returns the command in ZVERB and sets a return code of 8 from the display screen.

**12**

The specified panel, message, message location field, or cursor field could not be found.

**16**

Truncation or translation error in storing defined variables.




**20**

Severe error.

## DSINFO—data set information dialog

---

### Command invocation format

➤ ISPEXEC — DSINFO — DATASET( *dsname* ) —  VOLUME( *serial* ) — ➤

### Call invocation format

➤ CALL — ISPEXEC — ( *buf-len* , — *buffer* ); ➤

OR

➤ CALL — ISPLINK — ('DSINFO\_...' — , — *dsname* — , — *serial* — ); ➤

### Return codes

**0**

Normal completion.

**8**

User requested information unavailable. Dialog error variables (ZERRLM, and so on) contain further information.

**12**

One of these:

- Internal Service Failure
- Error when using the OBTAIN macro to read the DSCB
- Error obtaining directory information

**20**

Severe error.

## EDIF—Edit interface

---

### Command invocation format

You cannot use command procedures to invoke this service.

## Call invocation format

[illegible]

OR

Diagram illustrating the syntax of the CALL statement with annotations for field names and delimiters:

```

CALL — ISLINK — ('EDIF_____ — , — data-name — ' — , — rec-format — 
                                ' — , — rec-len — , — read-routine — , — write-routine — , — cmd-routine — , — 
                                dialog-data — ' — ' — ' — ' — ' — ' — 
                                ' — , — 'YES_____ — ' — , — tabname — );
  
```

The annotations indicate the following fields and delimiters:

- Fields:** *data-name*, *rec-format*, *rec-len*, *read-routine*, *write-routine*, *cmd-routine*, *dialog-data*, and *tabname*.
- Delimiters:** Single quote ('), comma (,), and semicolon (;).

## 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 the system builds the initial edit display, the EDIF service terminates with a return code of 20. Otherwise, the edit data is redisplayed.

20

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

### Command routine return codes

- 0**  
Normal completion.
- 4**  
ISPF should process the requested function.
- 12**  
Command deferred; retain the command on the Command line. Edit data is redisplayed.
- 20**  
Severe error. (The 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

You cannot use command procedures to invoke this service.

### Call invocation format

```
➤ CALL — ISPLINK — ('EDIREC_...' — , — 'INIT_...' — , — command-name — ); ➤
```

### 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.

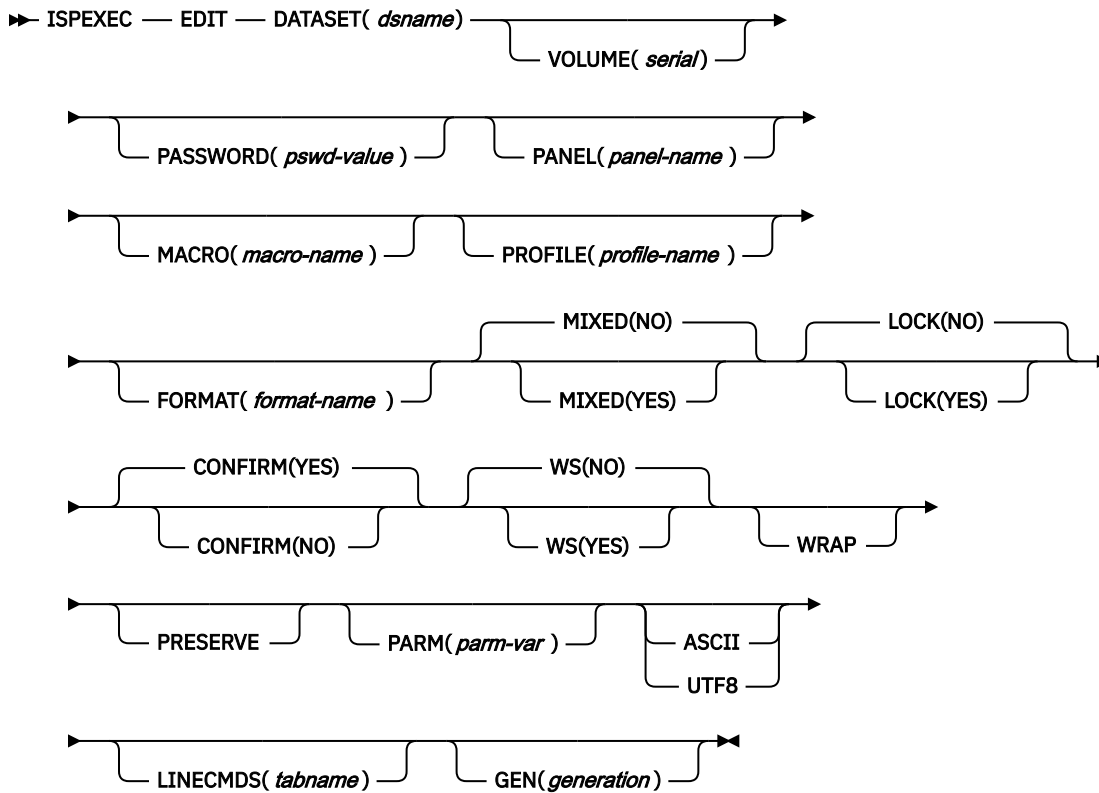
- QUERY - Entry found in EDIF recovery table (recovery is pending).

20

Severe error; unable to continue.

## EDIT—edit a data set

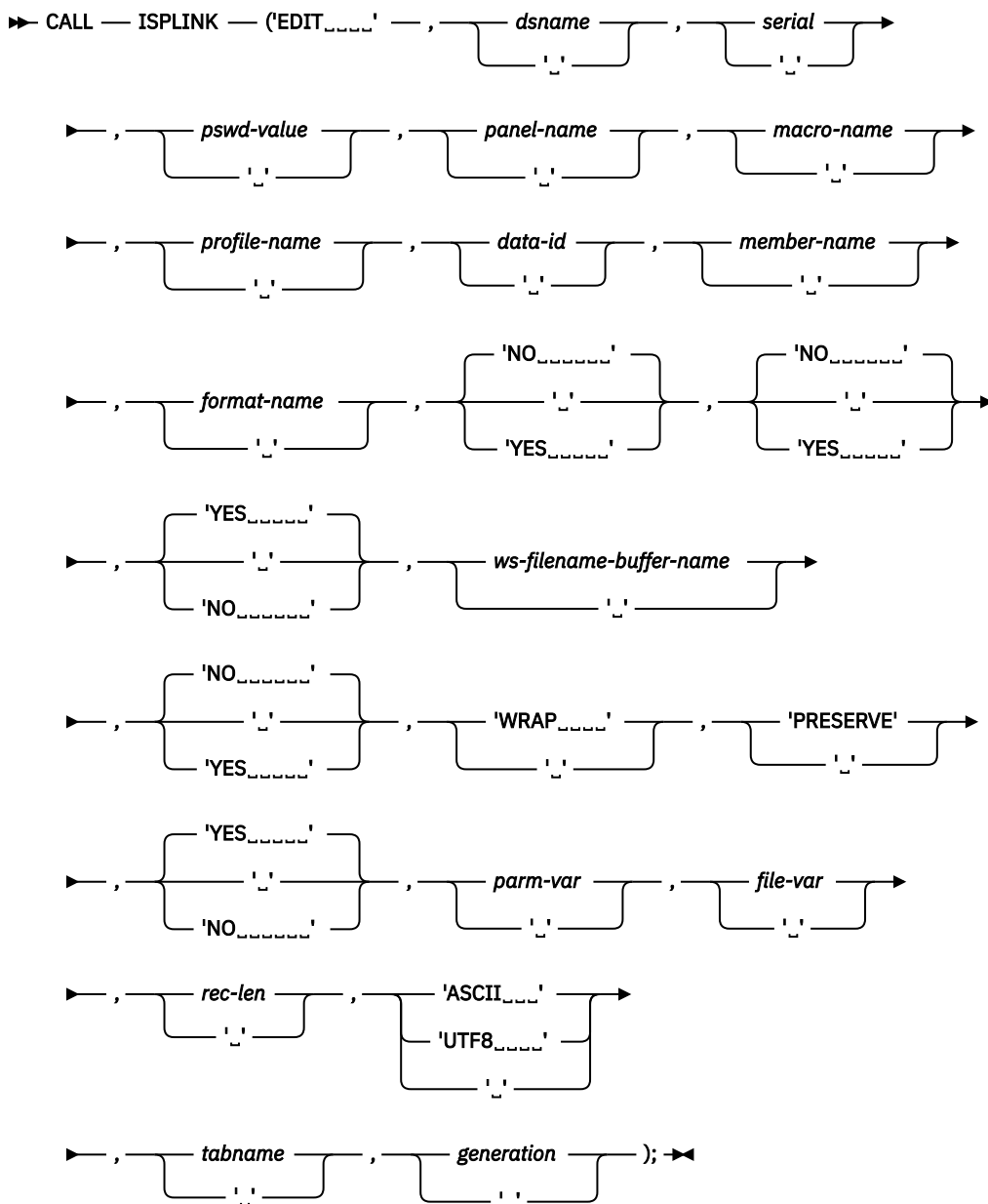
### Command invocation format



OR



## Call invocation format



OR

➤ CALL — ISPEXEC — (*buf-len* , — *buffer*); ➤

## Return codes

0

Normal completion; data was saved.

4

Normal completion; data was *not* saved for one of these reasons.

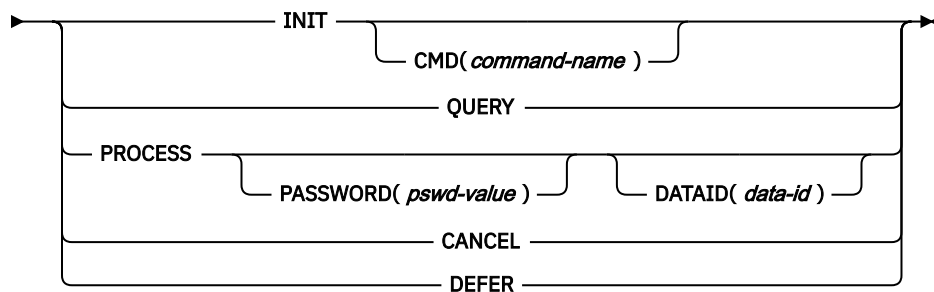
- No data changes were made during the EDIT session.
- The CANCEL command was used to exit EDIT.
- Browse was substituted for EDIT because insufficient storage was available to read in the requested data.

- 10** Member or generation (if specified) not found.
- 12** YES was specified for the LOCK parameter or the ws-filename-buffer-name parameter was specified.
- 14** Member, sequential data set, or z/OS UNIX file in use.
- 16** Either:
- No members matched the specified pattern.
  - No members in the partitioned data set.
- 18** A VSAM data set was specified but the ISPF Configuration Table does not allow VSAM processing.
- 20** Severe error; unable to continue.

## EDREC—specify edit recovery handling

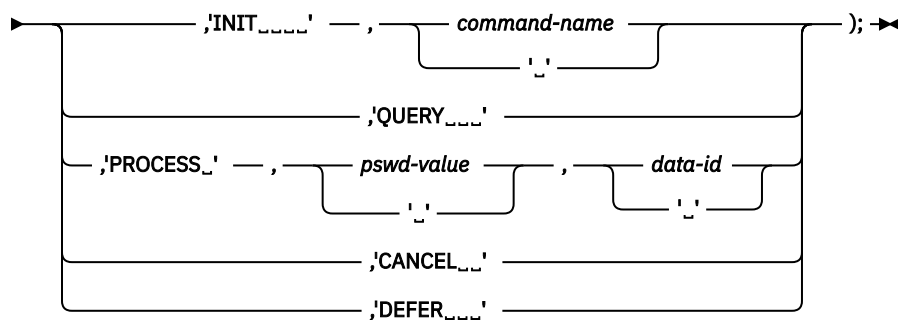
### Command invocation format

►► ISPEXEC — EDREC →



### Call invocation format

►► CALL — ISPLINK — ('EDREC\_...' →



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**

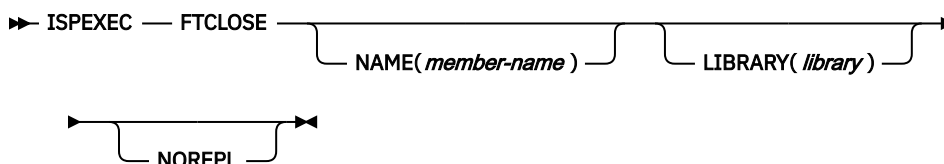
Recovery was completed, but user did not save data.

**20**

Severe error; unable to continue.

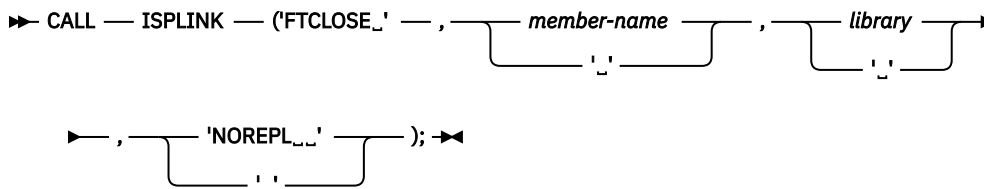
**FTCLOSE—end file tailoring**

---

**Command invocation format****Call invocation format**

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►◄

OR

**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. FOPEN was not used before FTCLOSE.
- 12**  
Output file in use. ENQ failed.
- 16**  
Skeleton library or output file not allocated.
- 20**  
Severe error.

## FTERASE—erase file tailoring output

---

### Command invocation format

► ISPEXEC — FTERASE — *member-name* — LIBRARY( *library* ) ►

### Call invocation format

► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►

OR

► CALL — ISPLINK — ('FTERASE\_' — , — *member-name* — , — *library* — ); ►

### Return codes

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

## FTINCL—include a skeleton

---

### Command invocation format

► ISPEXEC — FTINCL — *skel-name* — NOFT — EXT ►

### Call invocation format

► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►

OR

```

▶ CALL — ISPLINK — ('FTINCL__' — , — skel-name — , — 'NOFT_____')
                                     , — 'EXT_____' — );
                                     , — '_____') — ▶

```

## Return codes

**O**

Normal completion.

8

Skeleton does not exist.

12

Skeleton in use; ENQ failed.

16

Data truncation occurred or skeleton library or output file not allocated.

20

Severe error.

## FTOPEN—begin file tailoring

## Command invocation format

►► ISPEXEC — FTOPEN —————►►  
  TEMP

## Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

*OR*

```
➤ CALL — ISPLINK — ('FTOPEN_<<' — , — 'TEMP_<<<<'); ➤
```

## Return codes

**O**

Normal completion.

8

File tailoring already in progress.

16

Skeleton library or output file not allocated.

12

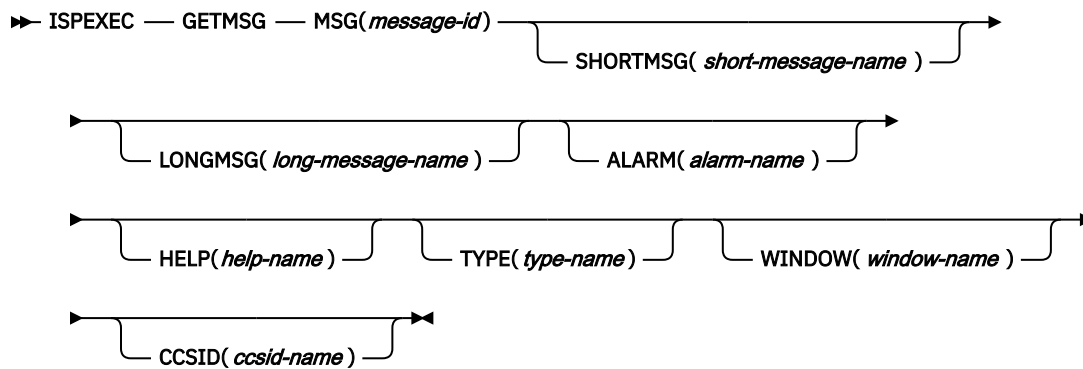
Output file in use; ENQ failed.

20

Severe error.

## GETMSG—get a message

## Command invocation format



## Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

*OR*

```

▶ CALL — ISPLINK — ('GETMSG_' — , message-id — , — short-message-name —
                                ' ' —
▶ , — long-message-name — ' ' — , — alarm-name — ' ' — , — help-name —
▶ , — type-name — ' ' — , — window-name — ' ' — , — ccsid-name — ' ' — ); ▶

```

## Return codes

<b>0</b>	Normal completion.
<b>12</b>	The specified message could not be found.
<b>20</b>	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*
```

OR

```

➤ CALL — ISPLINK — ('GRINIT_' — , application-anchor-block — , — panel-name — ); ➤
                                └───┬───┘
                                ' '

```

### Return codes

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

## GRTERM—graphics termination service

---

### Command invocation format

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

## Call invocation format

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

OR

➤ CALL — ISPLINK — ('GRTERM\_...'); ➤

## Return codes

0

Normal completion

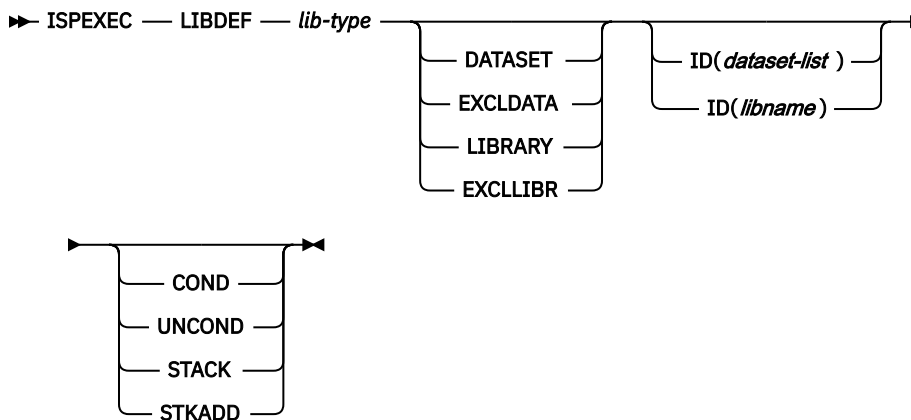
20

Severe error.

## LIBDEF—allocate application libraries

### Command invocation format

**Note:** If none of the processing options COND, UNCOND, STACK, or STKADD is specified, the processing option is set using the value in the ISPF configuration table keyword DEFAULT\_LIBDEF\_PROCESSING\_OPTION. If this keyword is not set in the ISPF configuration table, the processing option is set to the default value UNCOND. Always specify a processing option for the LIBDEF service to ensure that changes to the DEFAULT\_LIBDEF\_PROCESSING\_OPTION value in the configuration table do not cause unexpected changes to your dialog processing.

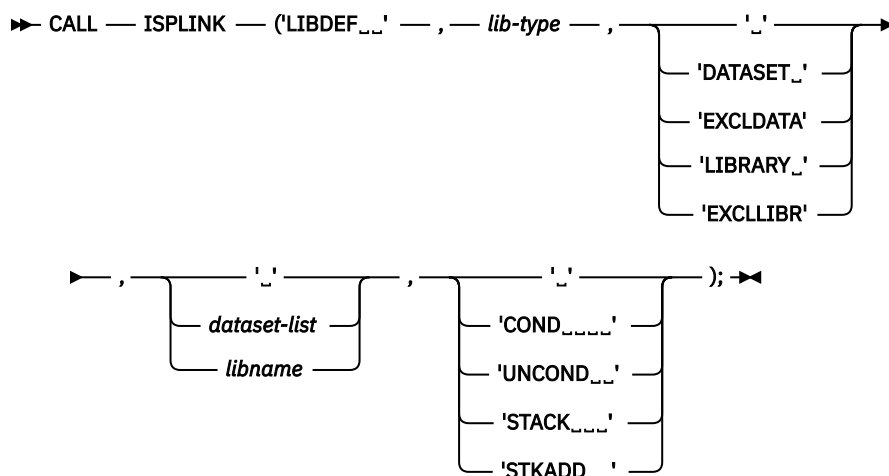


### Call invocation format

**Note:** If none of the processing options COND, UNCOND, STACK, or STKADD is specified, the processing option is set using the value in the ISPF configuration table keyword DEFAULT\_LIBDEF\_PROCESSING\_OPTION. If this keyword is not set in the ISPF configuration table, the processing option is set to the default value UNCOND. Always specify a processing option for the LIBDEF service to ensure that changes to the DEFAULT\_LIBDEF\_PROCESSING\_OPTION value in the configuration table do not cause unexpected changes to your dialog processing.

➤ CALL — ISPEXEC — (*buf-len*, — *buffer*); ➤

OR



## Return codes

**O**

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

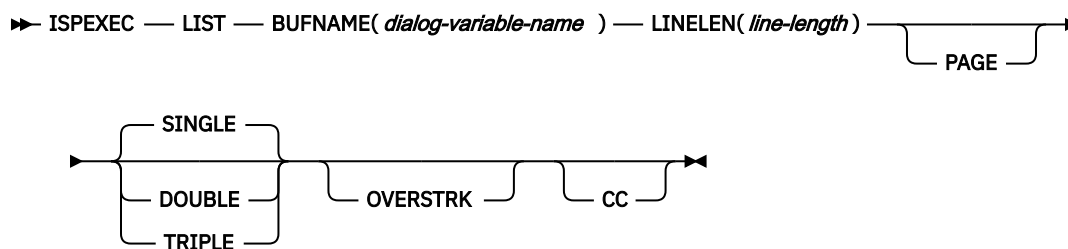
A libname was not allocated, or the dataset-list contains an invalid MVS™ dsname.

20

Severe error.

## LIST—write lines to the list data set

## Command invocation format

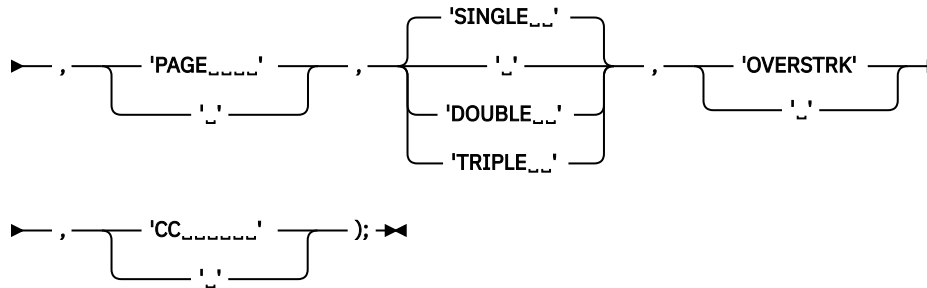


## Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

OR

►► CALL — ISPLINK — ('LIST\_####' — , — *dialog-variable-name* , — *line-length* —►



## Return codes

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

## LMCLOSE—close a data set

---

### Command invocation format

►► ISPEXEC — LMCLOSE — DATAID( *data-id* ) ►►

### Call invocation format

►► CALL — ISPLINK — ('LMCLOSE\_', *data-id* ); ►►

OR

►► CALL — ISPEXEC — (*buf-len* , — *buffer* ); ►►

## Return codes

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

## LMCOMP—compresses a partitioned data set

---

### Command invocation format

► ISPEXEC — LMCOMP — DATAID( *data-id* ) ►

### Call invocation format

► CALL — ISPLINK — ('LMCOMP\_', *data-id* ); ►

OR

► CALL — ISPEXEC — (*buf-len*, *buffer*); ►

### Return codes

**0**

Successful completion.

**8**

Library type is a PDSE and cannot be compressed

**10**

No data set 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**

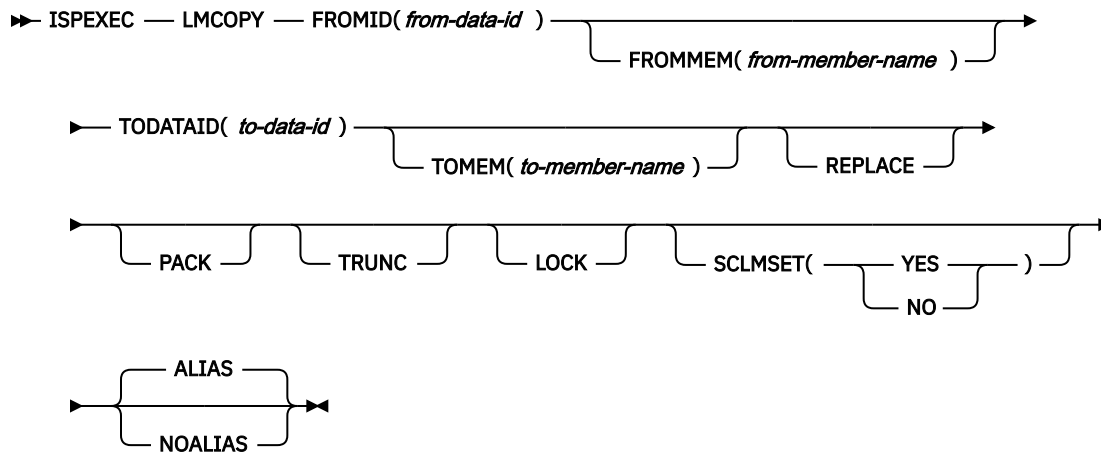
Severe error; unable to continue.

## LMCOPY—copy members of a data set

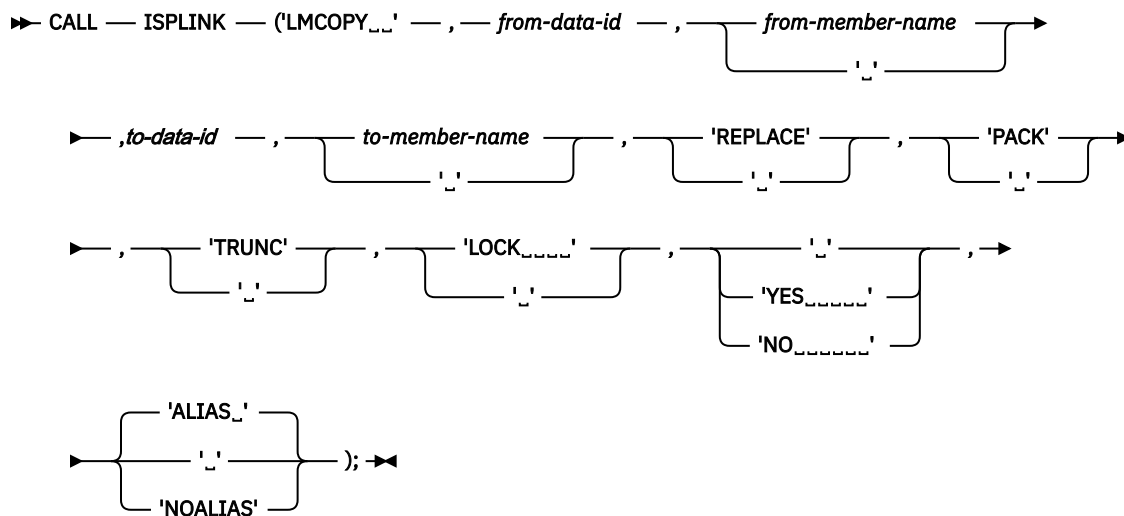
---

### Command invocation format





### Call invocation format



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**

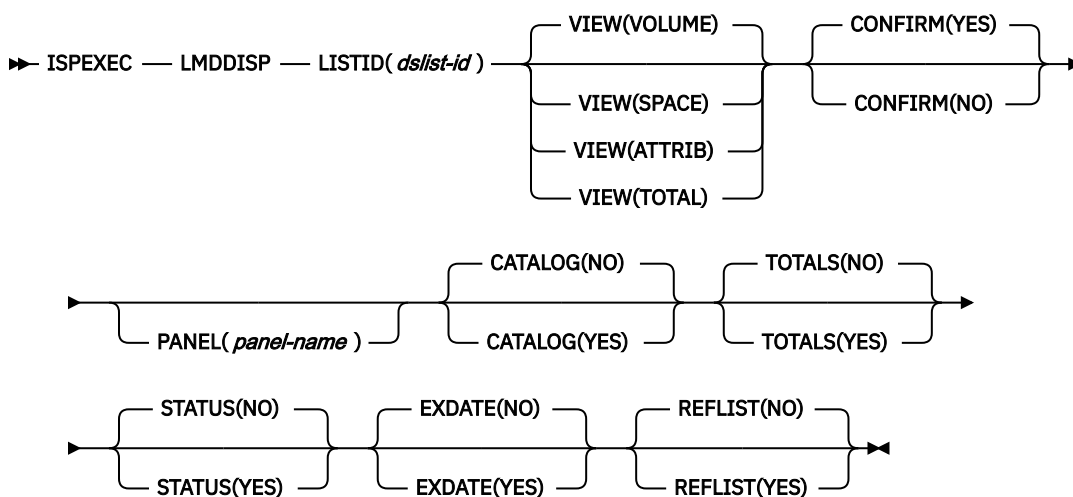
Truncation error.

**20**

Severe error; unable to continue.

## LMDDISP—data set display service

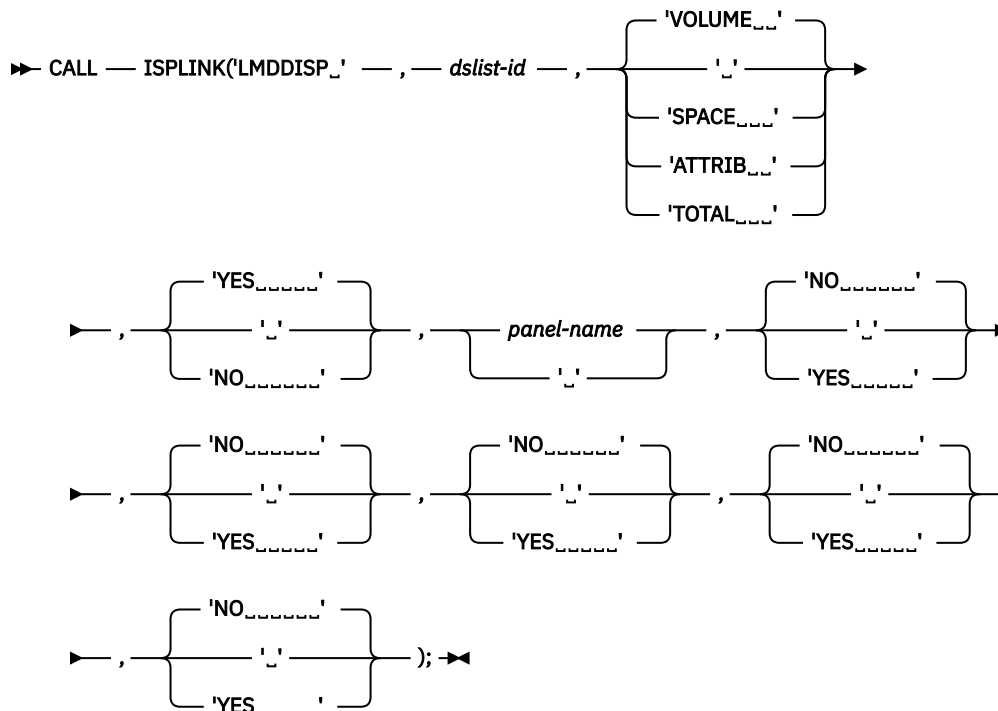
### Command invocation format



### Call invocation format

➤ CALL — ISPEXEC — ( *buf-len* , *buffer* ); ➤

OR



## Return codes

**O**

Normal completion.

8

Error building data set list. The error condition is described in the ISPF system dialog variables.

10

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

12

A keyword value is incorrect.

20

A severe error occurred while processing the data set list.

## LMDFREE—free a data set list

## Command invocation format

►► ISPEXEC — LMDFREE — LISTID(*list-id*) ◄◄

## Call invocation format

► CALL — ISPLINK — ('LMDFREE\_', — *list-id*); ◄

*OR*

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

## Return codes

- 0**  
Normal completion.
- 8**  
Free dslist ID failed. For more information about the error condition, see *System variables used to format error messages* in *ISPF Services Guide*.
- 10**  
No data set level or volume is associated with given dslist ID. LMDINIT has not been completed.
- 20**  
Severe error; unable to continue.

## LMDINIT—initialize a data set list

---

### Command invocation format

► ISPEXEC — LMDINIT — LISTID( *dslist-id-var* ) —  —  
LEVEL( *dsname-level* ) —  
VOLUME( *volume-serial* ) —◄

### Call invocation format

► CALL — ISPLINK — ('LMDINIT\_' — , *dslist-id-var* — ,  —  
dsname-level —  
' ' —  
,  —  
volume-serial —  
' ' —  
); —◄

OR

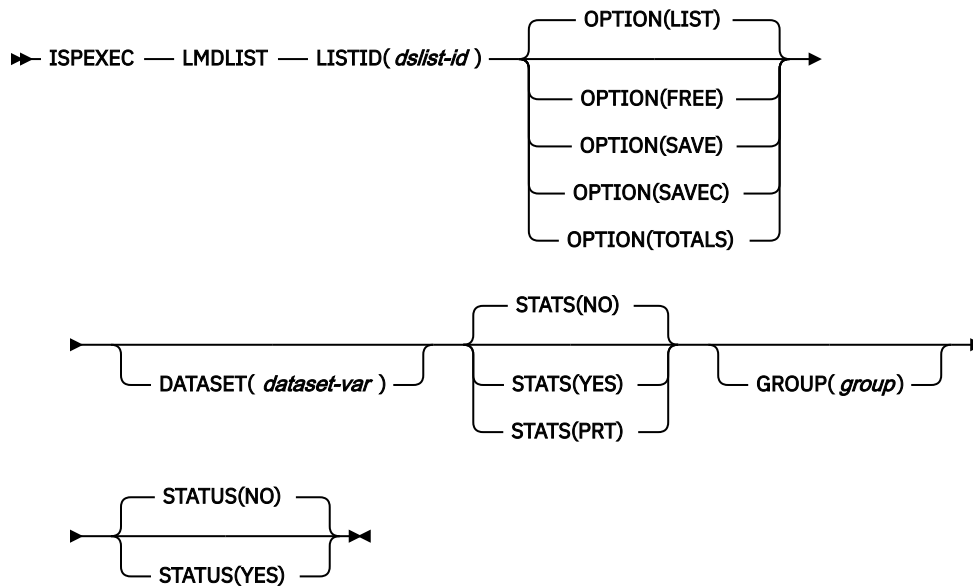
► CALL — ISPEXEC — (*buf-len* , — *buffer*); —◄

### Return codes

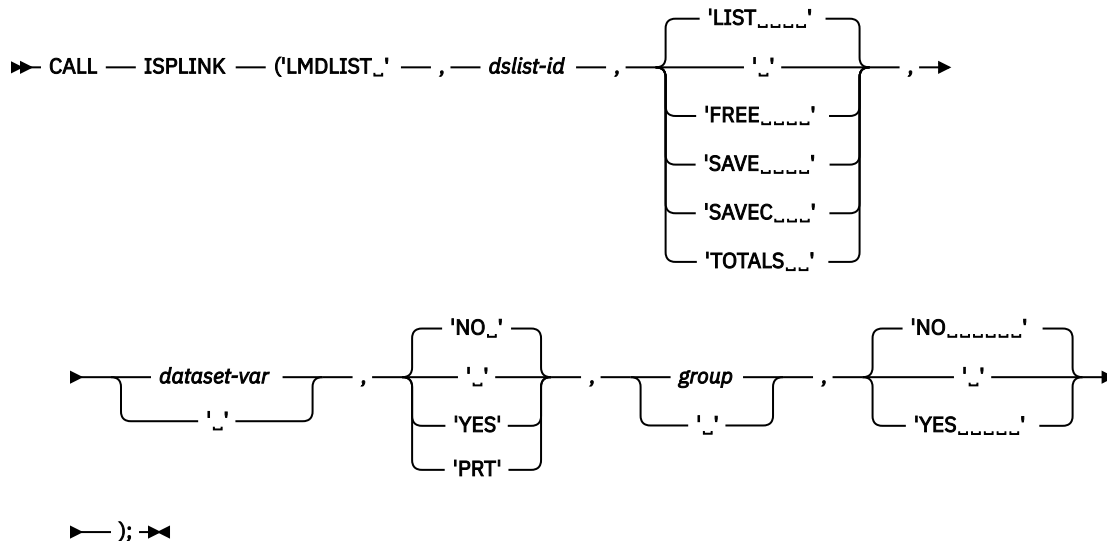
- 0**  
Normal completion. LMDINIT returns a unique dslist ID in the variable specified in keyword LISTID.
- 8**  
The dslist ID was not created; for more information about the error condition, see *System variables used to format error messages* in *ISPF Services Guide*.
- 12**  
A keyword value is incorrect.
- 16**  
A truncation or translation error occurred in accessing dialog variables.
- 20**  
Severe error; unable to continue.

## LMDLIST—list a data set

### Command invocation format



### Call invocation format



OR

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

### Return codes

0

One of these:

- **LIST** option - Normal completion. The name of 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 list has been freed.
- SAVE option - Normal completion. The data set list has been successfully written to a data set. The total number of tracks and datasets 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 datasets are returned to dialog variables in the function pool, if requested.
- TOTALS option - Normal completion. No list has been written to a dataset. The total number of tracks and datasets are returned into dialog variables in the function pool.

**4**

One of these:

- No data sets matched specified search criteria (the values for keywords LEVEL and VOLUME on the LMDINIT service).
- An incomplete VTOC list. An entry was found in the VTOC index but the volume was not available. The name in the index has not been added to the data set list.

**8**

End of data set list.

**10**

The data set list does not exist for dslist ID.

**12**

A keyword value is incorrect.

**16**

A truncation or translation error occurred in accessing dialog variables.

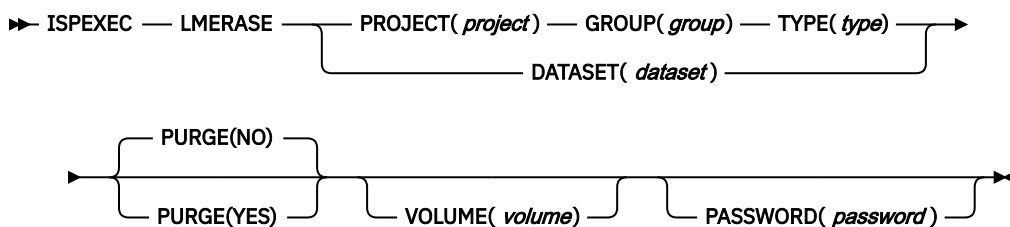
**20**

Severe error; unable to continue.

## LMERASE—erase a data set

---

### Command invocation format



## Call invocation format

```

➤ CALL — ISPLINK('LMERASE_', — , — project — , — group — , — type —
                                     ' ' ' ' ' '
                                     , — dataset — , — volume —
                                     ' ' ' '
                                     , — password — ); ➤
                                     ' '

```

OR

```

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

```

## Return codes

**0**

Normal completion.

**8**

One of these:

- Data set is not cataloged or other allocation failure.
- Data set delete failed.
- Data set name is an alias.
- Expiration date not expired and PURGE parameter omitted
- No data set specified as input
- PROJECT specified, but GROUP or TYPE not specified.

**12**

Expiration date not expired and PURGE(NO) specified.

**20**

Severe error; unable to continue.

## LMFREE—free data set from its association with data ID

### Command invocation format

```

➤ ISPEXEC — LMFREE — DATAID( data-id ) ➤

```

### Call invocation format

```

➤ CALL — ISPLINK('LMFREE_', data-id); ➤

```

OR

```

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

```

## Return codes

These return codes are possible:

- 0**  
Normal completion.
- 8**  
Free data ID failed; for more information about the error condition, see *System variables used to format error messages* in *ISPF Services Guide*.
- 10**  
No ISPF library or data set is associated with the given data ID; that is, LMINIT has not been completed.
- 20**  
Severe error; unable to continue.

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

### Command invocation format

```

➤ ISPEXEC — LMGET — DATAID( data-id ) — MODE(
    MOVE
    LOCATE
    INVAR
    MULTX
) →

➤ DATALOC( data-loc-var ) — DATALEN( data-len-var ) — MAXLEN( max-length ) →
  
```

### Call invocation format

```

➤ CALL — ISPLINK — ('LMGET_...', data-id — , —
    'MOVE_...'
    'LOCATE_...'
    'INVAR_...'
    'MULTX_...'
) — ,data-loc-var →

➤ ,data-len-var — ,max-length — );
  
```

OR

```

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

### Return codes

- 0**  
Normal completion.
- 8**  
End-of-data set condition; no message formatted.
- 10**  
No ISPF library or data set associated with the given data ID; that is, LMINIT has not been completed.
- 12**  
One of 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

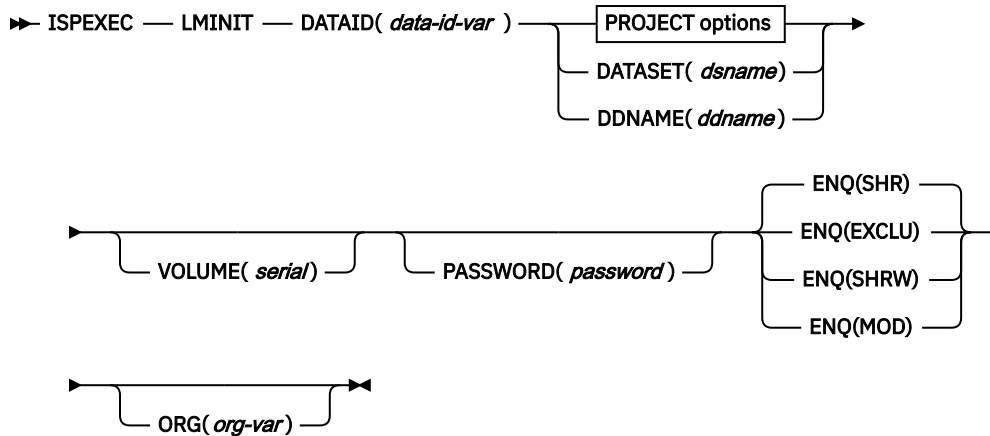
A truncation or translation error occurred in accessing dialog variables.

20

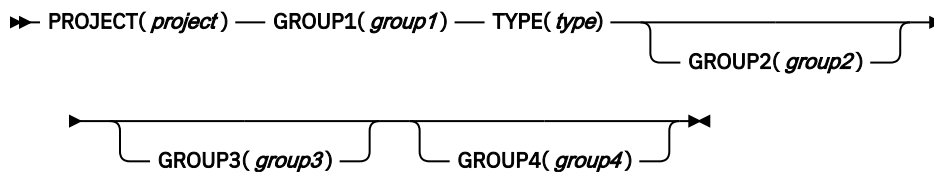
Severe error; unable to continue.

## LMINIT—generate a data ID for a data set

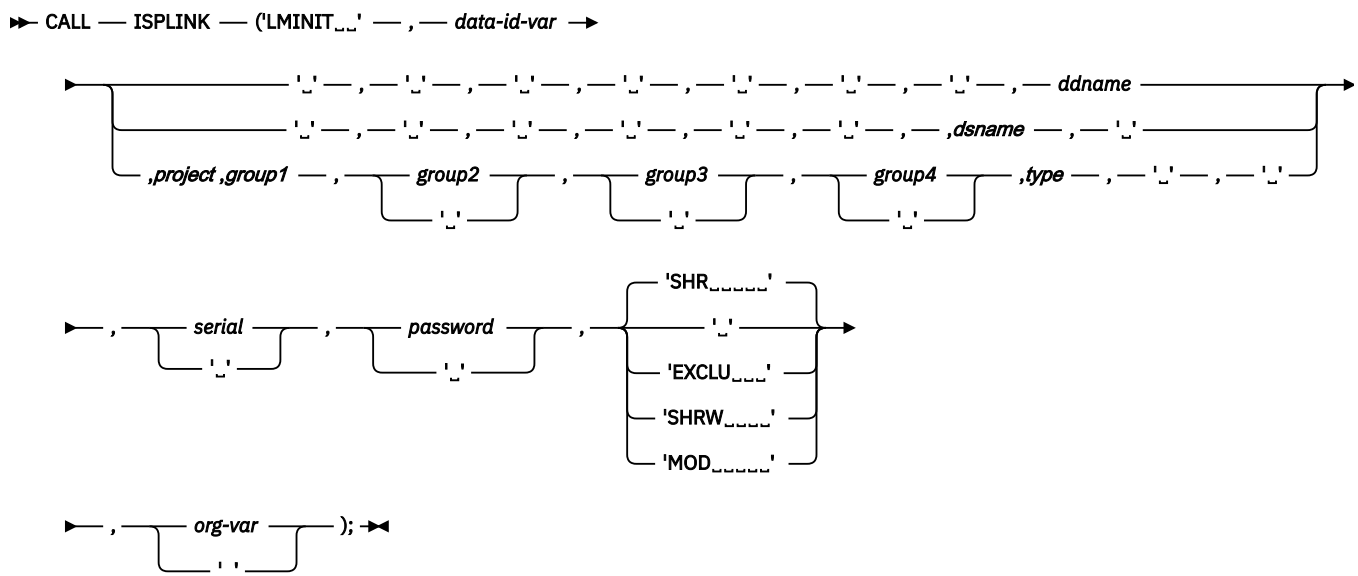
### Command invocation format



### PROJECT options



### Call invocation format



OR

►► CALL — ISPEXEC — ( *buf-len* , *buffer* ); ►►

## Return codes

These return codes are possible:

**0**

Normal completion.

**8**

Data ID not created; for more information about the error condition, see *System variables used to format error messages* in *ISPF Services Guide*.

**12**

The parameter value is invalid.

**16**

Truncation or translation error in accessing dialog variables.

**20**

Severe error; unable to continue.

For more information about dialog variables, see *System variables used to format error messages* in *ISPF Services Guide*.

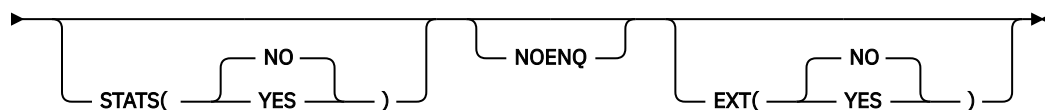
**Note:** Data sets allocated with an XTIOIOT will return a "DDNAME Not Found" message and set RC=8 if XTIOIOT support is not fully enabled.

**Note:** Data sets allocated with an XTIOIOT will return a "DDNAME Not Found" message and set RC=8 if XTIOIOT support is not fully enabled.

## LMMADD—add a member to a data set

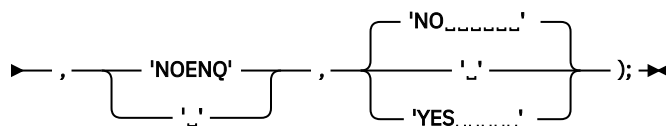
### Command invocation format

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



### Call invocation format

➤ CALL — ISPLINK — ('LMMADD\_<\_>' — ,*data-id* — ,*member-name* — , { 'NO\_<\_>' 'YES\_<\_>' } — ) ➤



OR

➤ CALL — ISPEXEC — ( *buf-len* , — *buffer* ); ➤

### Return codes

**0**

Normal completion.

- 4**  
The 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.
- 16**  
A truncation or translation error occurred in accessing dialog variables.
- 20**  
Severe error; unable to continue.

## LMMDEL—delete members from a data set

---

### Command invocation format

►► ISPEXEC — LMMDEL — DATAID( *data-id* ) — MEMBER( *member-name* ) — NOENQ —►

### Call invocation format

►► CALL — ISPLINK('LMMDEL\_...' — ,*data-id* — ,*member-name* — , 'NOENQ\_...' ); ►►

OR

►► CALL — ISPEXEC — ( *buf-len* , — *buffer* ); ►►

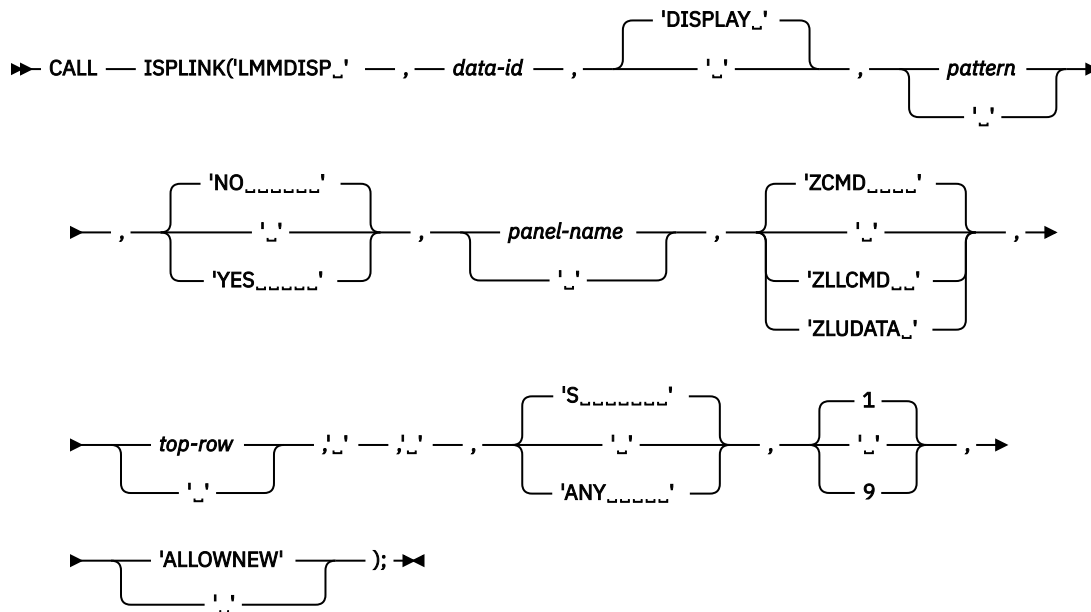
### Return codes

- 0**  
Normal completion.
- 8**  
The member was 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.

**ISPEXEC — LMMDISP — DATAID( *data-id* )**

OPTION(DISPLAY)



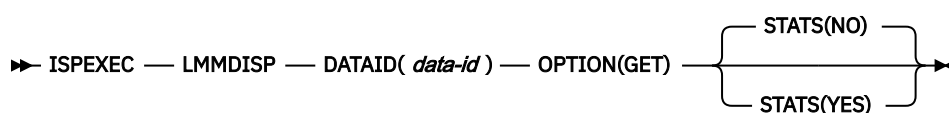


## Return codes

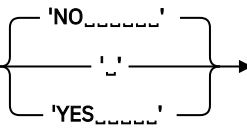
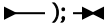
- 0** One or more members were selected and/or a primary command not recognized by LMMDISP was entered.
- 4** The requested data sets were empty, or no members matched the specified pattern.
- 8** END or RETURN was entered.
- 10** No data set is associated with the given data ID; LMINIT has not been completed.
- 12** Indicates one of these conditions:
- Data set not open.
  - Data set not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.
  - Invalid invocation syntax.
- 16** A truncation or translation error occurred in accessing dialog variables.
- 20** Severe error; unable to continue.

## LMMDISP—member list service: GET option

### Command invocation format



## Call invocation format

► CALL — ISPLINK('LMMDISP\_' — , — *data-id* — , 'GET\_...' — , ' ' — , —  —   
 

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 set not open.
  - Data set not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.
  - Invalid invocation syntax.
  - Member list has not been created.
- 16** A truncation or translation error occurred in accessing dialog variables.
- 20** Severe error; unable to continue.

## LMMDISP—member list service: PUT option

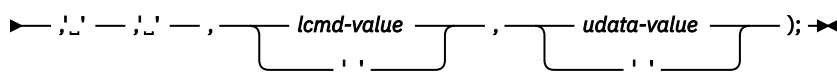
### Command invocation format

► ISPEXEC — LMMDISP — DATAID( *data-id* ) — OPTION(PUT) — MEMBER( *member-name* ) — ►



### Call invocation format

► CALL — ISPLINK('LMMDISP\_' — , — *data-id* — , 'PUT\_...' — , *member-name* — , ' ' — , ' ' — ►



OR

►► CALL — ISPEXEC — (*buf-len*,*buffer*); ►◄

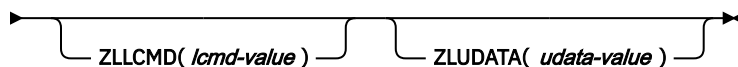
## Return codes

- 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**  
A truncation or translation error occurred in accessing dialog variables.
- 20**  
Severe error; unable to continue.

## LMMDISP—member list service: ADD option

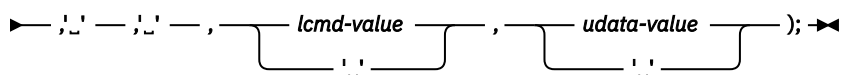
### Command invocation format

►► ISPEXEC — LMMDISP — DATAID( *data-id* ) — OPTION(ADD) — MEMBER( *member-name* ) ►►



### Call invocation format

►► CALL — ISPLINK('LMMDISP\_' — , — *data-id* — ',ADD\_'' — ,*member-name* — ',\_ — ',\_ — ►►



OR

►► CALL — ISPEXEC — (*buf-len*,*buffer*); ►◄

## Return codes

- 0**  
Successful completion.
- 8**  
The member already exists 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**

A truncation or translation error occurred in accessing dialog variables.

**20**

Severe error; unable to continue.

## LMMDISP—member list service: DELETE option

---

### Command invocation format

➤ ISPEXEC — LMMDISP — DATAID( *data-id* ) — OPTION(DELETE) — MEMBER( *member-name* ) ➤

### Call invocation format

➤ CALL — ISPLINK('LMMDISP\_' — , — *data-id* — , 'DELETE\_' — , *member-name* ); ➤

OR

➤ CALL — ISPEXEC — ( *buf-len* , *buffer* ); ➤

### Return codes

**0**

Successful completion.

**8**

A specified member does not exist in the member list.

**10**

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

**12**

Indicates one of 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**

A truncation or translation error occurred 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.
- 12** Indicates one of these conditions:
- Data sets not open.
  - Data sets not partitioned.
  - Invalid parameter value.
  - Invalid data set organization.
  - Invalid invocation syntax.
- 16** A truncation or translation error occurred in accessing dialog variables.
- 20** Severe error; unable to continue.

## LMMFIND—find a library member

---

### Command invocation format

►► ISPEXEC — LMMFIND — DATAID( *data-id* ) — MEMBER( *member-name* ) — LOCK — LRECL( *lrecl-var* ) — RECFM( *recfm-var* ) — GROUP( *group-var* ) — STATS(NO) — STATS(YES) — NOLLA ►◄

## Call invocation format

```

▶ CALL — ISPLINK — ('LMMFIND_' — ,data-id — ,member-name — ,
└──────────────────┘ └──────────┘
'LOCK_...'
└───┘

, └─── lrecl-var ───┘ , └─── recfm-var ───┘ , └─── group-var ───┘
└───┘ └───┘ └───┘

, ┌─── 'NO_...' ───┘
└─── 'YES_...' ───┘ , └─── 'NOLLA_...' ───┘ ); ▶
└───┘ └───┘

```

*OR*

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

## Return codes

**0** Normal completion.

**8** Member not found.

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

**12** One of these:

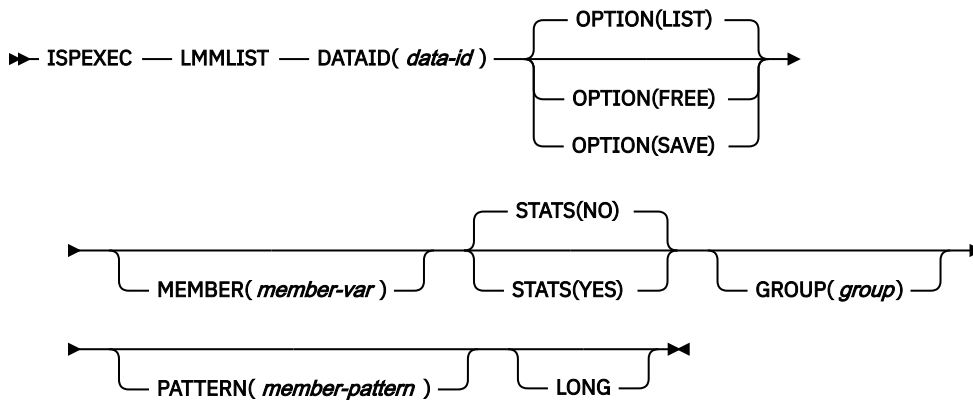
- Data set is not open or is not open for input.
- A parameter value is invalid.
- Data set is not partitioned.
- LOCK parameter was specified.

**16** A truncation or translation error occurred in accessing dialog variables.

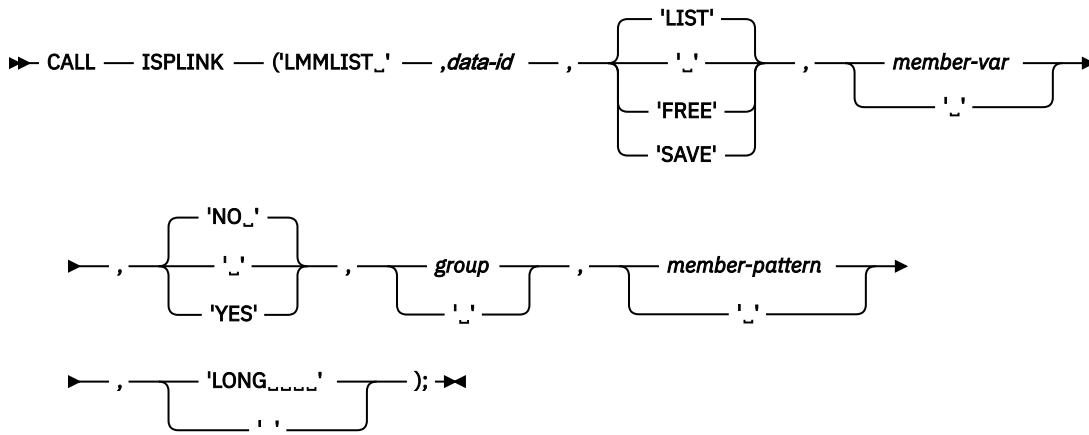
**20** Severe error; unable to continue.

## LMMLIST—list a library's members

### Command invocation format



### Call invocation format



OR

➤ **CALL** — **ISPEXEC** — (*buf-len*, — *buffer*); ➤

### Return codes

**0**

One of these:

- **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 a 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 has been invoked with the SAVE option after being invoked with 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.
- A parameter value is invalid.
- Member list was created using LMMDISP.

**16**

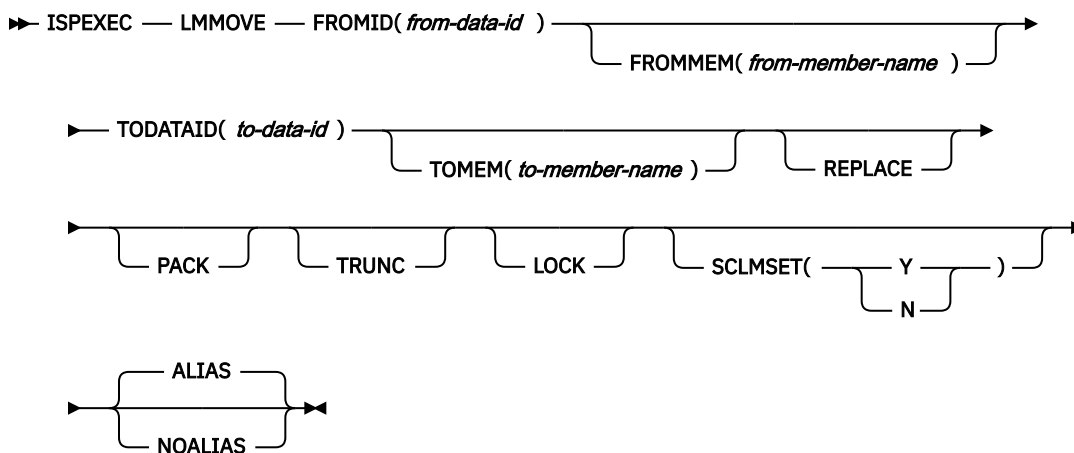
A truncation or translation error occurred in accessing dialog variables.

**20**

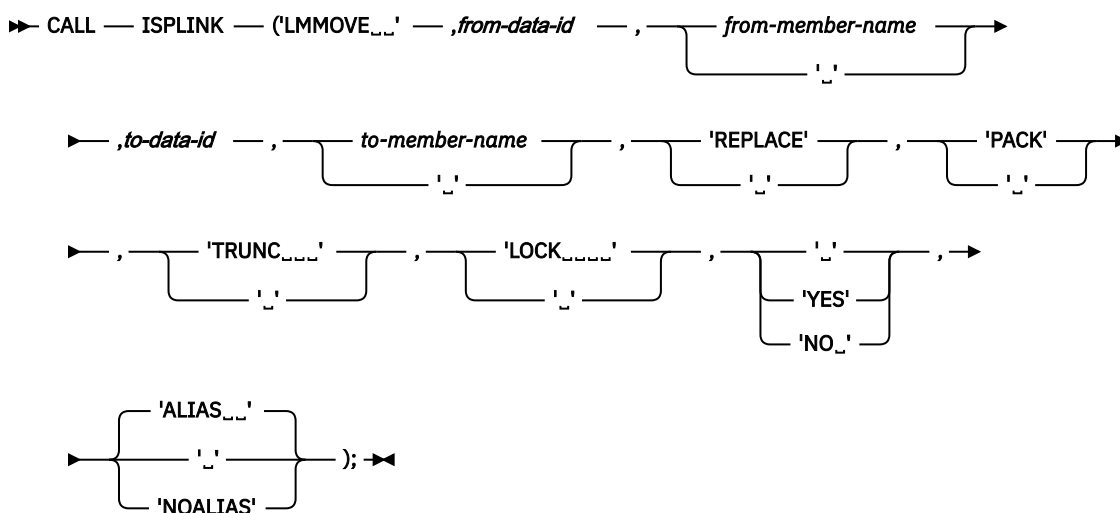
Severe error; unable to continue.

## LMMOVE—move members of a data set

### Command invocation format



### Call invocation format



OR

►► CALL — ISPEXEC — (*buf-len*,*buffer*); ►◄

## Return codes

**0**

Successful completion.

**4**

Either:

- "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:

- 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' or 'FROM' data sets are "in use" by you or another user and could not be moved.
- Invalid data set organization.
- Data set attribute invalid for packed data.
- Open error.

**16**

A truncation error occurred.

**20**

Severe error; unable to continue.

## LMMREN—rename a data set member

### Command invocation format

►► ISPEXEC — LMMREN — DATAID( *data-id* ) — MEMBER( *old-member-name* ) —►

► NEWNAME( *new-member-name* ) — NOENQ —►

### Call invocation format

►► CALL — ISPLINK('LMMREN\_...' — ,*data-id* — ,*old-member-name* — ,*new-member-name* —►

► , 'NOENQ\_...' ); ►◄

OR

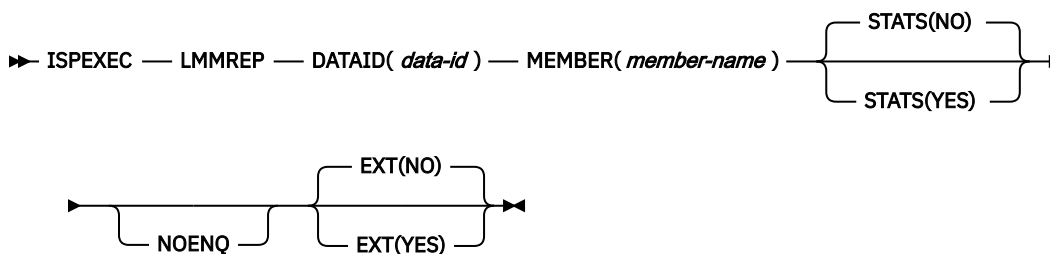
►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►◄

## Return codes

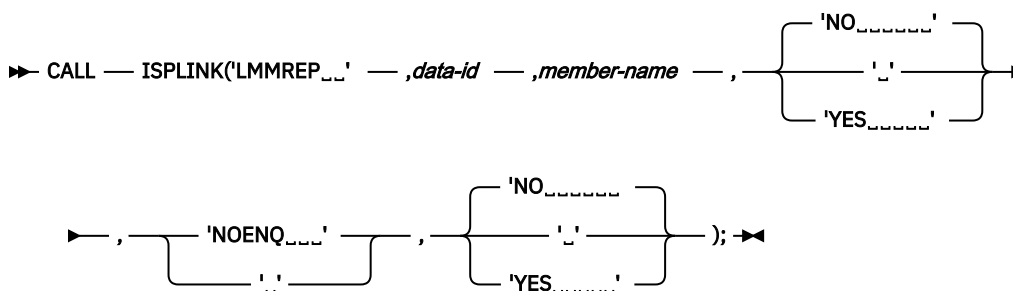
- 0**  
Normal completion.
- 4**  
Directory already contains the specified new name.
- 8**  
Member not found.
- 10**  
No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12**  
One of these:
- The data set is not open or is not open for output.
  - The parameter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

## LMMREP—replace a member of a data set

### Command invocation format



### Call invocation format



OR

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

## Return codes

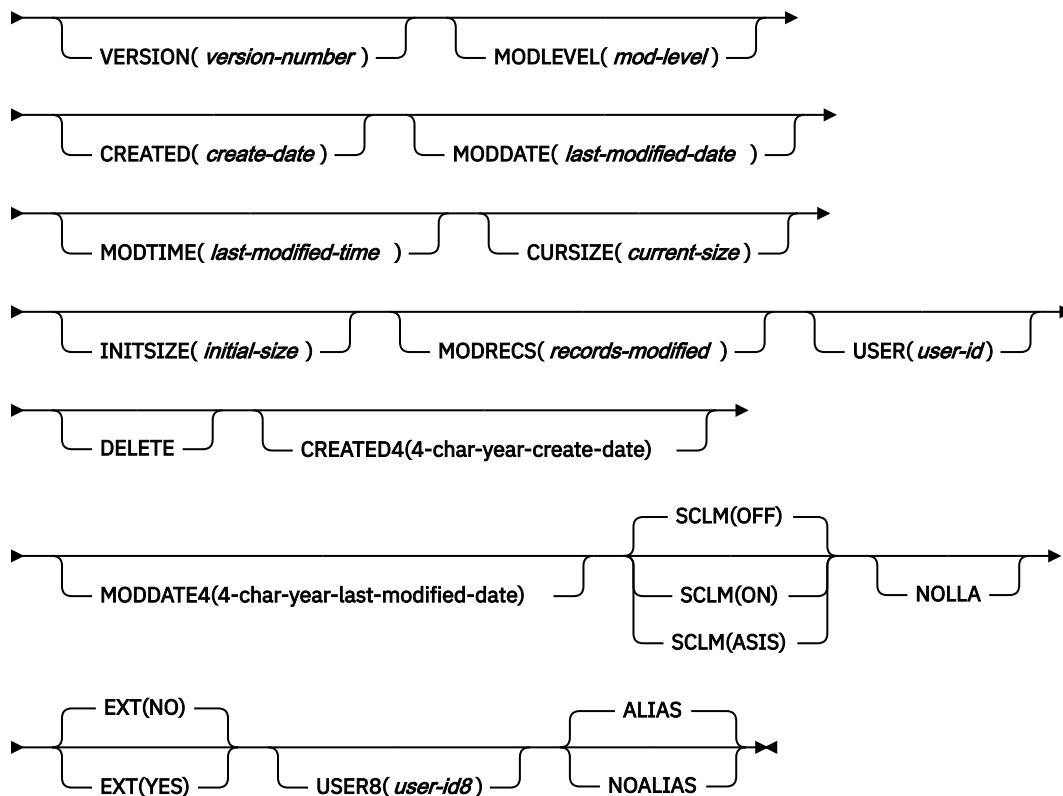
- 0**  
Normal completion.

- 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.
- 14** No record has been written for the member to be replaced.
- 16** Truncation or translation error in accessing dialog variables.
- 20** Severe error; unable to continue.

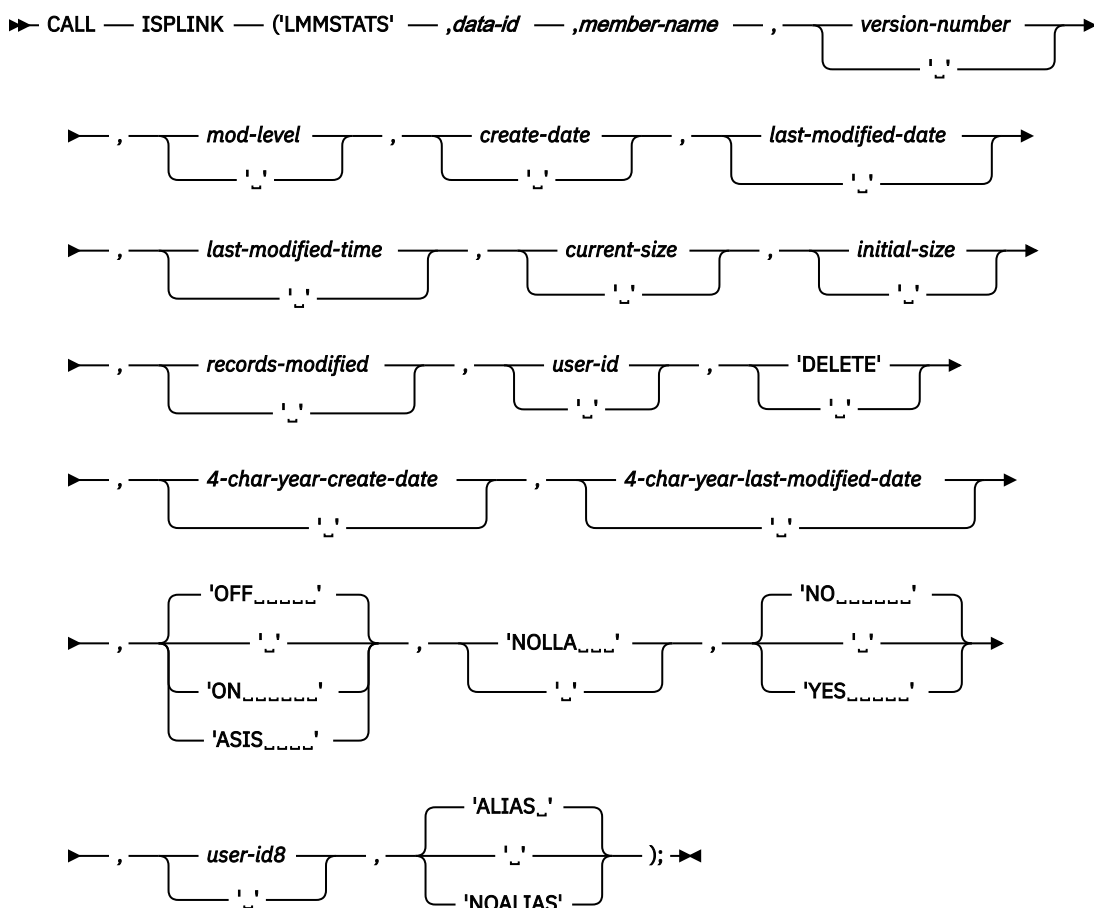
## LMMSTATS—set and store ISPF statistics

### Command invocation format

►► ISPEXEC — LMMSTATS — DATAID( *data-id* ) — MEMBER( *member-name* ) —►



## Call invocation format



OR

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

## Return codes

**0**

Normal completion.

**4**

Either:

- 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 opened for output.



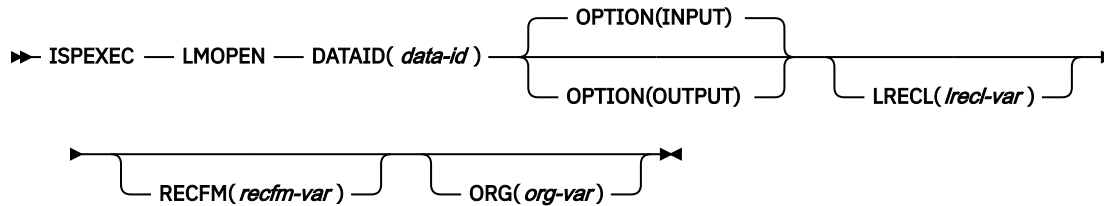
- Data set name is an alias. And the NOALIAS parameter was specified.

**20**

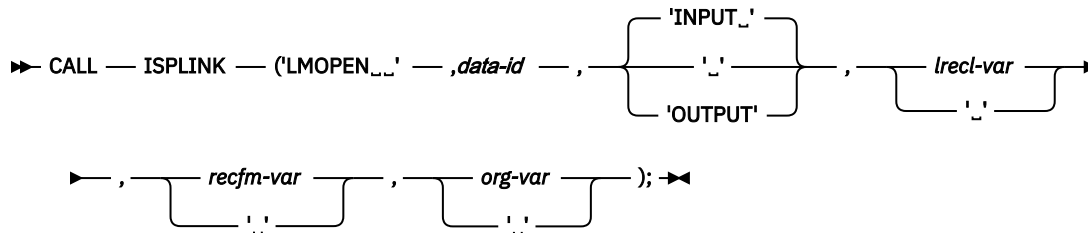
Severe error; unable to continue.

## LMOPEN—open a data set

### Command invocation format



### Call invocation format



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**

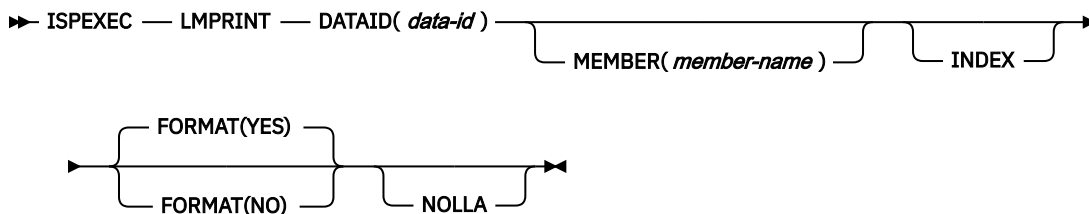
Truncation or translation error in accessing dialog variables.

**20**

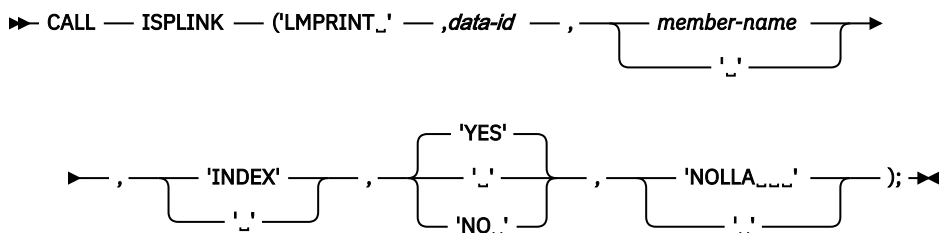
Severe error; unable to continue.

## LMPRINT—print a partitioned or sequential data set

### Command invocation format



### Call invocation format



OR

➤ CALL — ISPEXEC — (*buf-len* ,*buffer*); ➤

### Return codes

**0**

Normal completion.

**4**

Either:

- Data set is empty or contains an empty member.
- No members matched the pattern.

**8**

Member not found.

**10**

No data set associated with given data ID.

**12**

Either:

- 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' ─┐
    └ ';' ─┘
); ▶▶

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

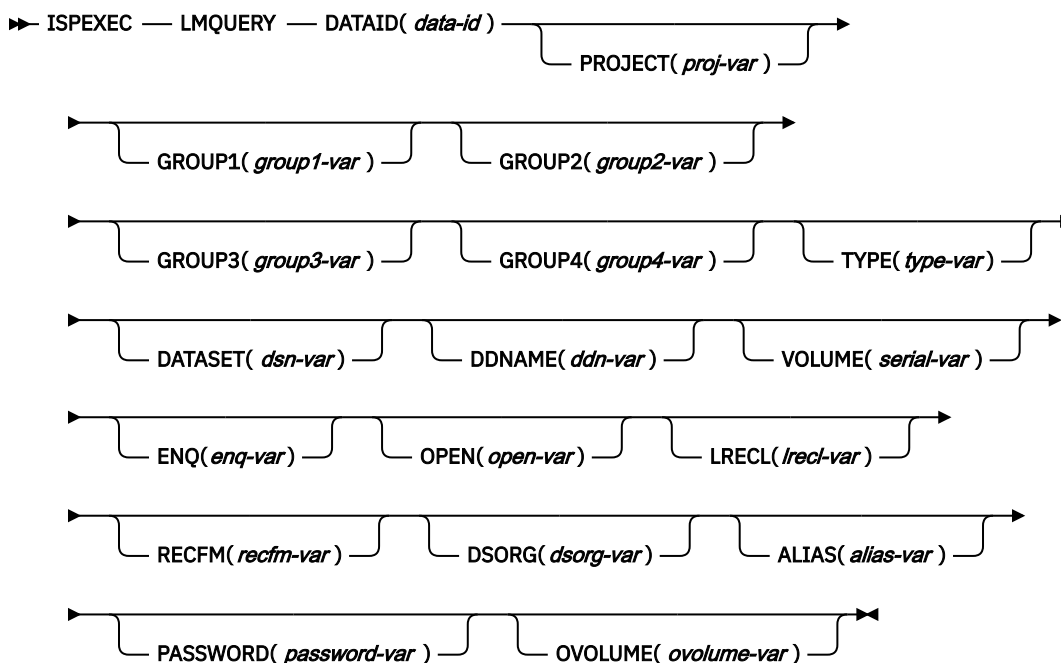
OR

### Return codes

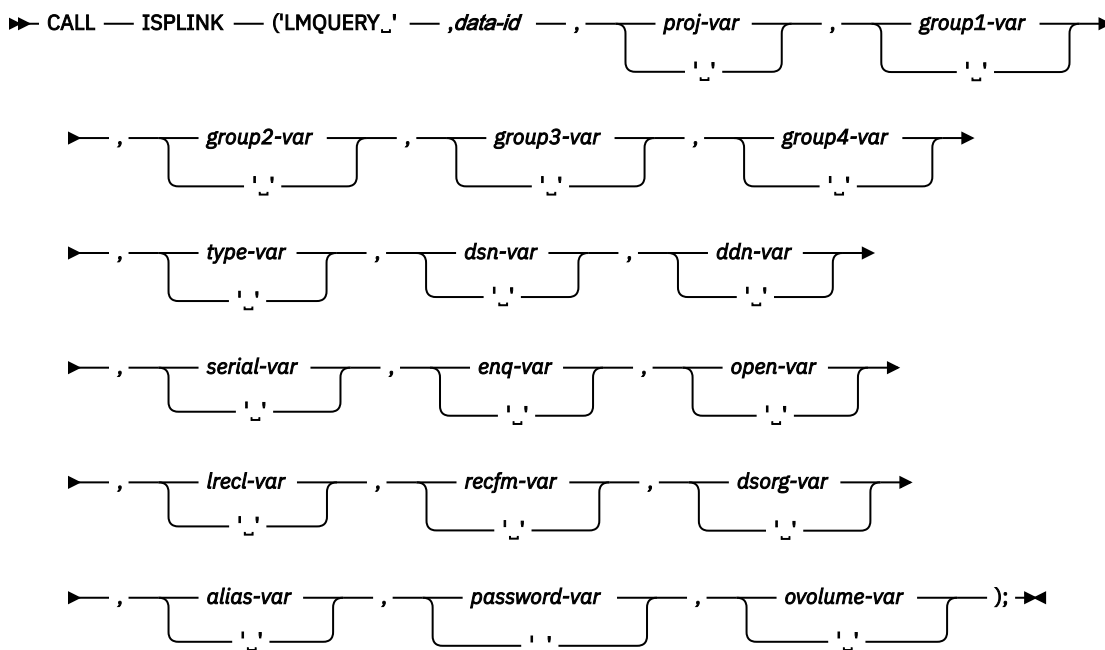
- 0**  
Normal completion.
- 10**  
No data set is associated with the given data ID; that is, LMINIT has not been completed.
- 12**  
Either:
- The data set is not open or is not open for output.
  - The parameter value is invalid.
- 16**  
Truncation or translation error in accessing dialog variables.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

## LMQUERY—give a dialog information about a data set

### Command invocation format



### Call invocation format



OR

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



20

Severe error; unable to continue.

## LOG—write a message to the log data set

---

### Command invocation format

►► ISPEXEC — LOG — MSG(*message-id*) ►◄

### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►◄

OR

►► CALL — ISPLINK — ('LOG\_####', — *message-id*); ►◄

### Return codes

0

Normal completion.

12

The message-id contains invalid syntax or was not found.

20

Severe error.

## MEMLIST—member list dialog

---

### Command invocation format

►► ISPEXEC — MEMLIST — DATAID( *data-id* ) —

MEMBER( *pattern* ) —

CONFIRM(YES) —

CONFIRM(NO) —

FIELD(9) —

FIELD(1) —

DEFAULT(S) —

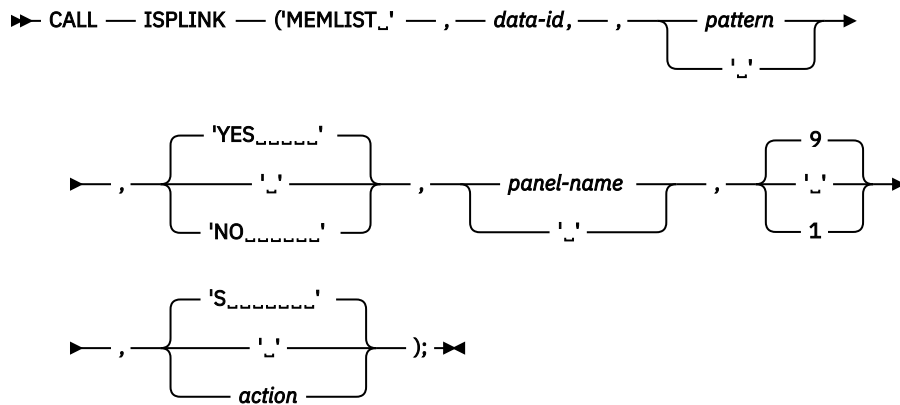
PANEL( *panel-name* ) —

DEFAULT( *action* ) —

### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►◄

OR

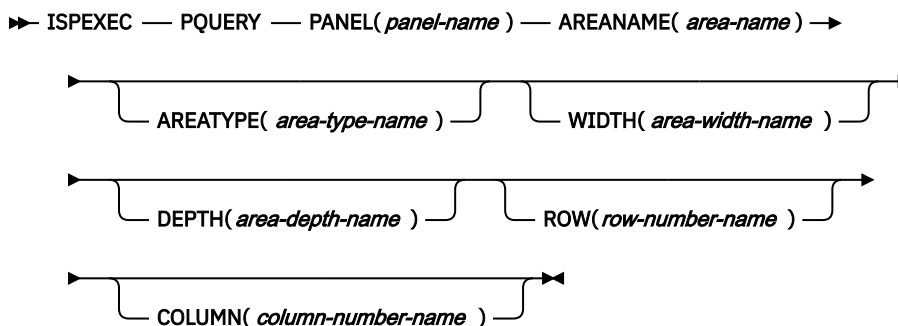


## Return codes

- 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**  
Indicates 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



### Call invocation format

CALL ISPEXEC (buf-len, buffer);

OR

```

➤➤ CALL — ISPLINK — ('PQUERY_...' — , — panel-name , — area-name →
      , — area-type-name — , — area-width-name →
      , — area-depth-name — , — row-number-name →
      , — column-number-name — ); ➤➤

```

### Return codes

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

## QBASELIB—query base library information

---

### Command invocation format

```

➤➤ ISPEXEC — QBASELIB — dd-name — ID(id-var) ➤➤

```

### Call invocation format

```

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

```

OR

```

➤➤ CALL — ISPLINK — ('QBASELIB' — , dd-name , — id-var — ); ➤➤

```

### Return codes

- 0** A DDNAME for the specified ddname exists and the requested information has been successfully returned.
- 4** The specified dd-name is not defined.
- 16** A dialog variable translation or truncation error has occurred.



20

A severe error has occurred.

## QLIBDEF—query LIBDEF definition information

---

### Command invocation format

```
➤ ISPEXEC — QLIBDEF — lib-type — TYPE(type-var) — ID(id-var) — ➤
```

### Call invocation format

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

OR

```
➤ CALL — ISPLINK — ('QLIBDEF_' — ,lib-type, — type-var — , — id-var — ); ➤
```

### Return codes

**0**

A LIBDEF definition for the specified lib-type exists and the requested information, if any, has been successfully returned.

**4**

The specified lib-type does not have an active LIBDEF definition.

**12**

An invalid lib-type value of ISPPROF has been specified.

**16**

A dialog variable translation or truncation error has occurred.

**20**

A severe error has occurred.

## QTABOPEN—query open ISPF tables

---

### Command invocation format

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

### Call invocation format

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

### Return codes

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.

20

Severe error.

## QUERYENQ—query system ENQ data

### Command invocation format

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

### Call invocation format

► CALL — ISPLINK — ('QUERYENQ' — ,table-name — ,qname — ,rname — ,pattern →  
 ► , 'WAIT\_XXXX' — ,limit — ,list-id — , 'XSYS\_XXXX' → ); ►

OR

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

### Variables returned in each row of the table

Table 5. Variables Returned in Each Row of the Table		
Name	Size	Description
ZENJOB	8	Job or address space name holding or requesting the ENQ
ZENQNAME	8	Qname portion of the ENQ
ZENRNAME	255	Rname portion of the ENQ
ZENDISP	5	SHARE or EXCLU
ZENHOLD	4	OWN or WAIT
ZENSCOPE	7	SYSTEM or SYSTEMS
ZENSTEP	7	STEP or blank
ZENGLOBL	6	GLOBAL or blank
ZENSYST	8	System name
ZENRESV	7	RESERVE or blank

### Return codes

0

Table returned or data set written, but XSYS parameter was not specified and the system is running in STAR mode. The data returned may not reflect all ENQs on all systems.

2

Table returned or data set written.

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

## REMPop—remove a pop-up window

---

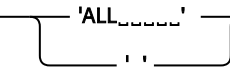
### Command invocation format

►► ISPEXEC — REMPOP —  ►►

### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►►

OR

►► CALL — ISPLINK — ('REMPop\_') — , —  — '); ►►

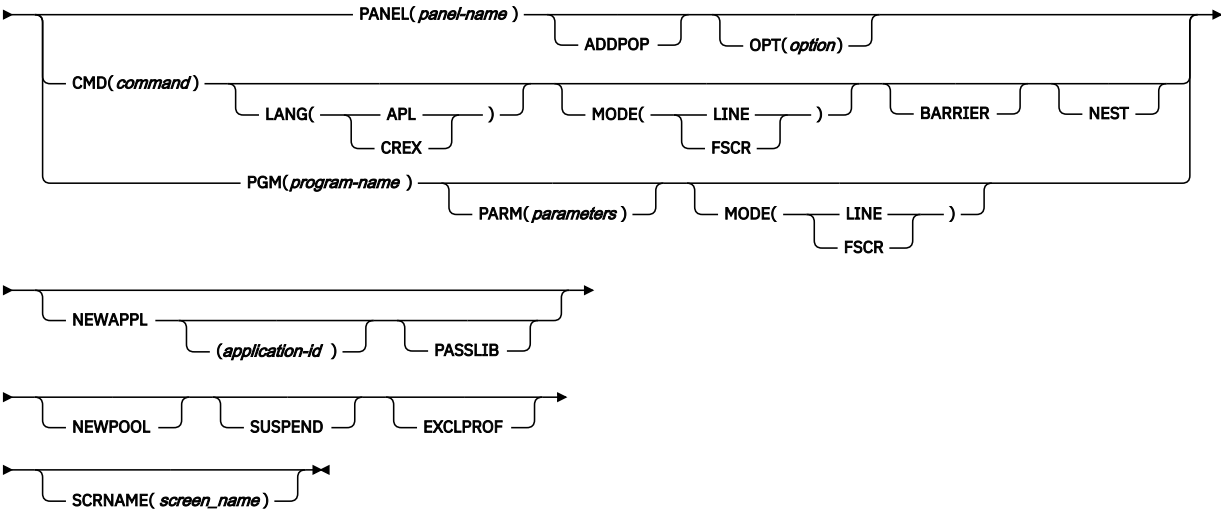
### Return codes

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

# SELECT—select a panel or function

## Command invocation format

➡ ISPEXEC — SELECT →

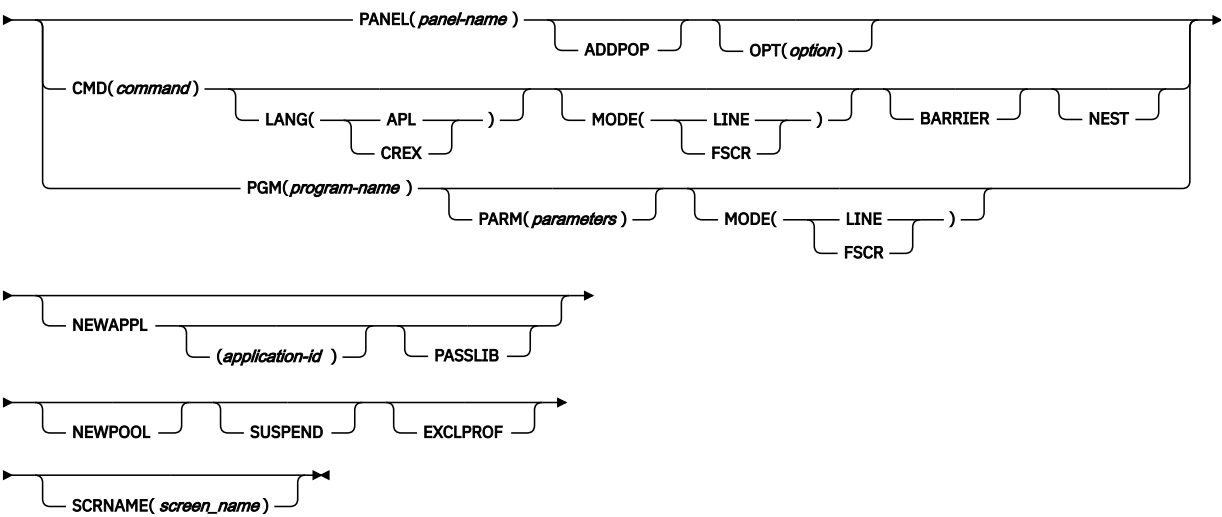


## Call invocation format

➡ CALL — ISPEXEC — (*buf-len*, — *buffer*); →

OR

➡ CALL — ISPLINK — ('SELECT\_...' — , — *length*, →



## 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.

## SETMSG—set next message

---

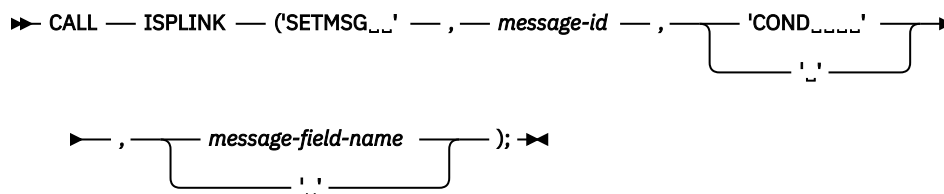
### Command invocation format



### Call invocation format

► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄

OR



### Return codes

**0**

Normal completion.

**4**

SETMSG with COND parameter issued and a SETMSG request was pending.

**12**

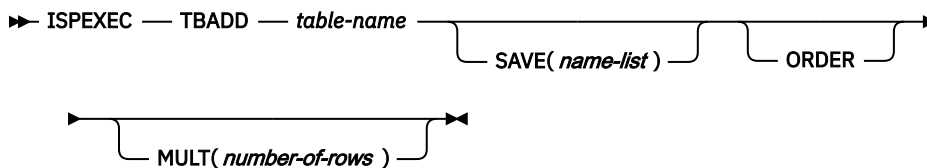
The specified message field name or message not be found.

**20**

Severe error.

## TBADD—add a row to a table

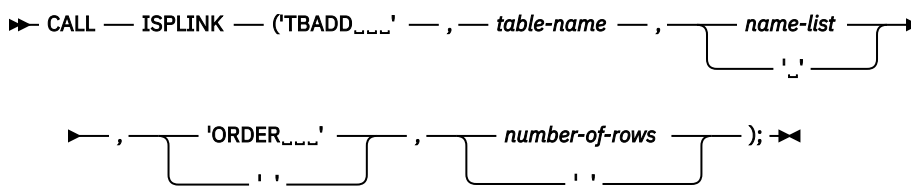
## Command invocation format



## Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

*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

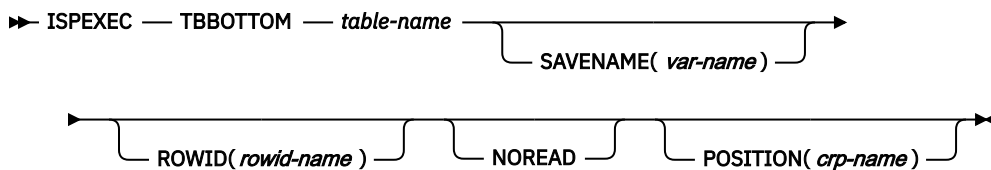
Numeric convert error; see numeric restrictions for TBSORT. Returned only for sorted tables.

20

Severe error.

## TBBOTTOM—set the row pointer to bottom

## Command invocation format



## 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 provided to return all extension variable names.
- 20**  
Severe error.

## TBCLOSE—close and save a table

---

### Command invocation format

```

➤ ISPEXEC — TBCLOSE — table-name — { REPLCOPY } — NAME(alt-name) —
                                     { NEWCOPY }
➤ { PAD(percentage) } { LIBRARY(library) } ➤

```

### 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.





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

The diagram illustrates the structure of the ISPEXEC command. It is represented as a horizontal line with a right-pointing arrow at the end. The command is divided into segments by vertical lines, with the following options and parameters:

- ISPEXEC**: The command itself.
- TBDISPL**: A keyword option.
- table-name**: A parameter for the table to be displayed.
- PANEL( panel-name )**: A keyword option with a parameter for the panel name.
- MSG( message-id )**: A keyword option with a parameter for the message ID.
- CURSOR( field-name )**: A keyword option with a parameter for the field name.
- CSRROW( table-row-number )**: A keyword option with a parameter for the table row number.
- CSRPOS( cursor-position )**: A keyword option with a parameter for the cursor position.
- AUTOSEL(YES)** and **AUTOSEL(NO)**: Keyword options for selecting the automatic selection of the cursor position.
- POSITION( crp-name )**: A keyword option with a parameter for the cursor position name.
- ROWID( rowid-name )**: A keyword option with a parameter for the row ID name.
- MSGLOC( message-field-name )**: A keyword option with a parameter for the message field name.

## Call invocation format

► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄

*OR*

```

➔ CALL — ISPLINK — ('TBDISPL_' — , — table-name — , — panel-name — ➔
                                     ' ' —
➔ , — message-id — , — field-name — , — table-row-number — ➔
      ' ' —           ' ' —           ' ' —
➔ , — cursor-position — , — 'YES_————' — , — crp-name — ➔
      ' ' —               ' ' —
                        'NO_————' —
➔ , — rowid-name — , — message-field-name — ); ➔
      ' ' —           ' ' —

```

## Return codes

### 0

If the panel definition contains neither a )REINIT nor a )PROC section, the Enter key was pressed, or a scroll command was entered. Any of 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 the Enter key.

### 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 conversion utility, CANCEL and EXIT commands also give return code 8. If CANCEL and EXIT is 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 you enter the END command on a table display panel, a subsequent redisplay will result in a return code of 8.

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

**12**

The specified panel, message, cursor field, or message location field could not be found.

**16**

Truncation or translation error in storing defined variables.

**20**

Severe error.

## TBEND—close a table without saving

---

### Command invocation format

►► ISPEXEC — TBEND — *table-name* ►◄

### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►◄

OR

►► CALL — ISPLINK — ('TBEND\_...' — , — *table-name*); ►◄

### Return codes

**0**

Normal completion.

**12**

Table is not open.

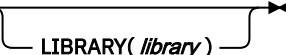
**20**

Severe error.

## TBERASE—erase a table

---

### Command invocation format

►► ISPEXEC — TBERASE — *table-name* —  ►◄

### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►◄

OR

```

➤ CALL — ISPLINK — ('TBERASE_' — , — table-name — , — library — ); ➤

```

## Return codes

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

## TBEXIST—determine whether a row exists in a table

---

### Command invocation format

```

➤ ISPEXEC — TBEXIST — table-name ➤

```

### Call invocation format

```

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

```

OR

```

➤ CALL — ISPLINK — ('TBEXIST_' — , — table-name); ➤

```

## Return codes

- 0**  
Normal completion; the CRP is positioned to the specified row.
- 8**  
Keyed tables: the specified row does not exist; the CRP is set to TOP (zero).  
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( csp-name )
  
```

## Call invocation format

➤ CALL — ISPEXEC — (*buf-len*, — *buffer*); ➤

*OR*

► CALL — ISPLINK — ('TBGET\_...' — , — *table-name* — , — *var-name* — ►  
 , — *rowid-name* — , — 'NOREAD\_...' — , — *crp-name* — ); ►

## Return codes

0

Normal completion.

8

Keyed tables: The row specified by the value in the key variables does not exist in any row after the current row pointer, the CRP is set to TOP (ZERO).

Non-keyed tables: the CRP was at TOP and remains at TOP.

12

Table is not open.

16

Variable value has been truncated, or insufficient space was provided to return all extension variable names.

20

Severe error.

## TBMOD—modify a row in a table

## Command invocation format

► ISPEXEC — TBMOD — *table-name* — *SAVE( name-list )* — *ORDER* — ►

## Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

OR

```

▶ CALL — ISPLINK — ('TBMOD_...' — , — table-name — , — name-list — )
▶ 'ORDER_...' — ); ▶

```

## Return codes

0

Normal completion. Keyed tables: Existing row updated. Non-keyed tables: New row added to table.

8

Keys did not match; new row 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

```

graph LR
    ISPEXEC --> TBOPEN
    TBOPEN --> table_name[table-name]
    table_name --> options_group
    subgraph options_group [ ]
        WRITE
        NOWRITE
    end
    options_group --> library_option[LIBRARY(library)]
    library_option --> end_arrow[ ]
    style end_arrow fill:none,stroke:none
  
```

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

SHARE

## Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

*OR*

► CALL — ISPLINK — ('TBOPEN\_...' — , — *table-name* — , — { 'WRITE\_...' — ' ' — 'NOWRITE\_...' } — ►

► , — *library* — , — 'SHARE\_...' — ); ►

## Return codes

0

Normal completion.

8

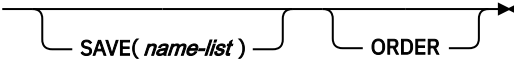
Table does not exist.

- 12**  
ENQ failed; table was in use by another user or the current user.
- 16**  
Table input library was not allocated.
- 20**  
Severe error.

## TBPOT—update a row in a table

---

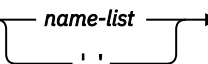
### Command invocation format

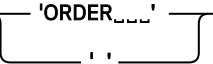
►► ISPEXEC — TBPOT — *table-name* —  ►►

### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►►

OR

►► CALL — ISPLINK — ('TBPOT\_...' — , — *table-name* — , — *name-list* —  ►►

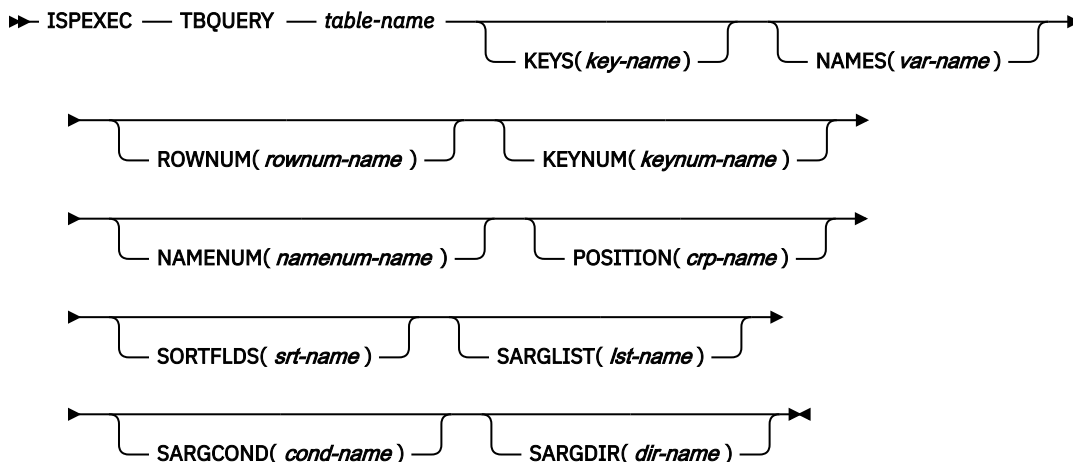
►► , — 'ORDER\_...' —  ); ►►

### Return codes

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

## TBQUERY—obtain table information

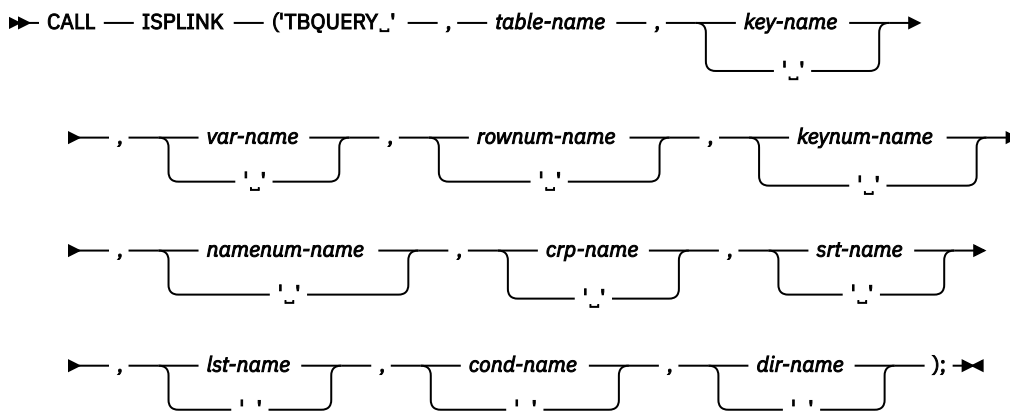
### Command invocation format



### Call invocation format

➤ CALL — ISPEXEC — (*buf-len*, — *buffer*); ➤

OR



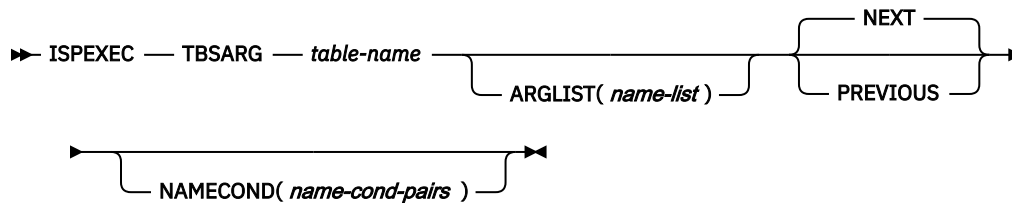
### Return codes

- 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

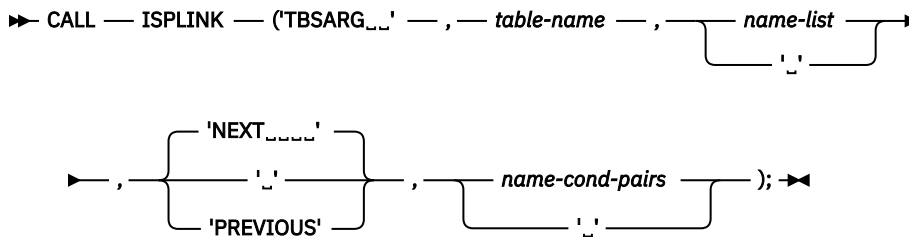
### Command invocation format



### Call invocation format

➤ CALL — ISPEXEC — (*buf-len*, — *buffer*); ➤

OR



### Return codes

0

Normal completion.

8

All column variables are null, and the name-list parameter was not specified; no argument is established.

12

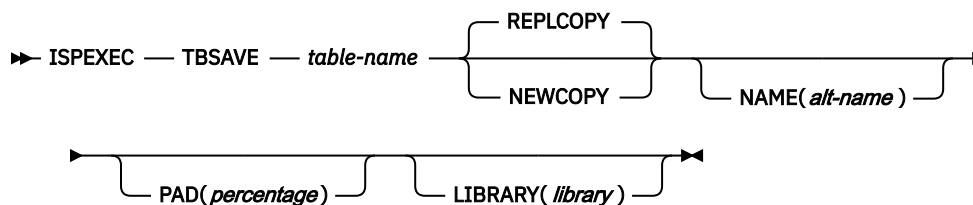
Table is not open.

20

Severe error.

## TBSAVE—save a table

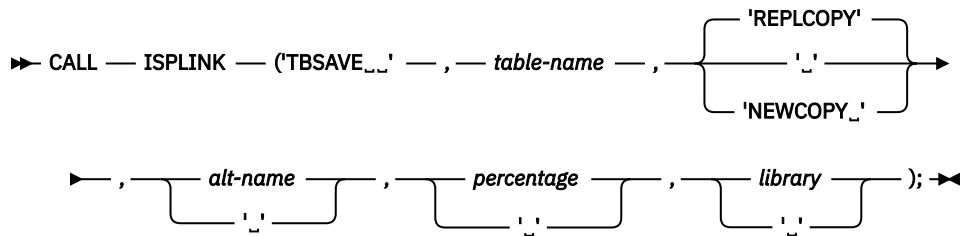
### Command invocation format



### Call invocation format

➤ CALL — ISPEXEC — (*buf-len*, — *buffer*); ➤

*OR*



## Return codes

**O**

Normal completion.

12

Table is not open.

16

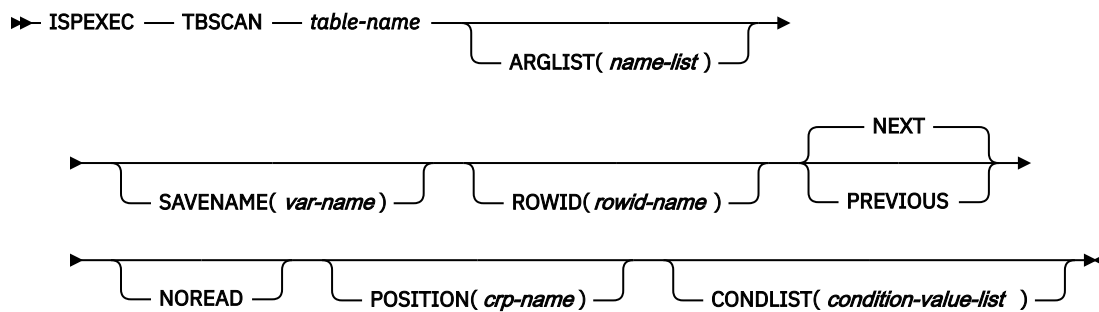
Alternate table output library was not allocated.

20

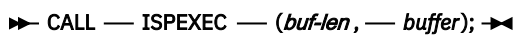
Severe error.

## TBSCAN—search a table

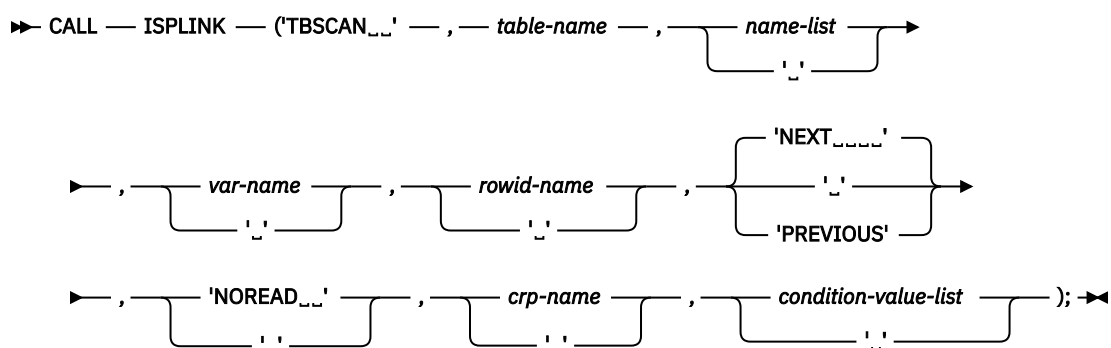
## Command invocation format



## Call invocation format



*OR*

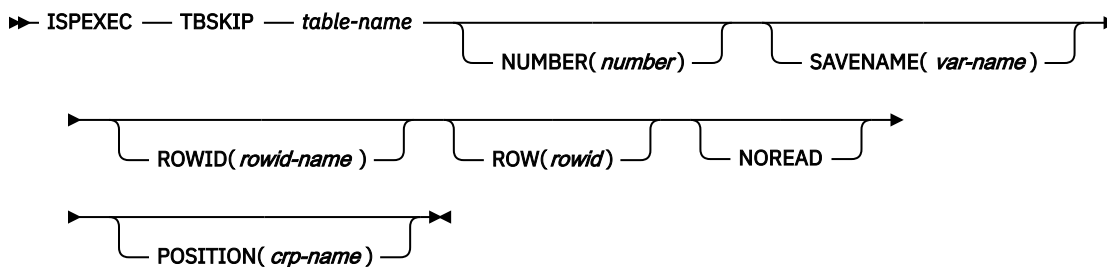


## Return codes

- 0**  
Normal completion.
- 8**  
Row does not exist, no match was found; CRP is set to TOP (zero). The rowid 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

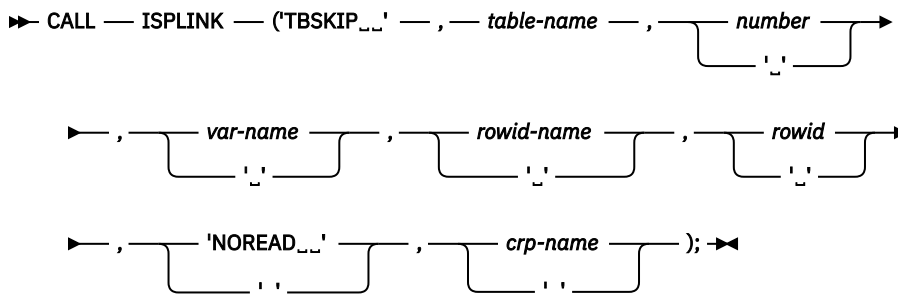
### Command invocation format



### Call invocation format

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

OR



- 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 rowid remains unchanged.
- 12**  
Table is not open.
- 16**  
Variable value has been truncated, or insufficient space is provided to return all extension variable names.

**20**

Severe error.

## TBSORT—sort a table

---

### Command invocation format

► ISPEXEC — TBSORT — *table-name* — FIELDS(*sort-list*) ►

### Call invocation format

► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►

OR

► CALL — ISPLINK — ('TBSORT\_...' — , — *table-name*, — *sort-list*); ►

### Return codes

**0**

Normal completion.

**12**

Table is not open.

**16**

Numeric convert error.

**20**

Severe error.

## TBSTATS—retrieve table statistics

## Command invocation format

The diagram illustrates the layout of the TBSTATS table, showing the sequence of fields and their data types. The fields are arranged in a single row, with their names and data types listed below the table structure. The fields are: ISPEXEC (CHARACTER), TBSTATS (CHARACTER), table-name (CHARACTER), CDATE (DATE), CTIME (TIME), UDATE (DATE), UTIME (TIME), USER (CHARACTER), ROWCREAT (ROWID), ROWCURR (ROWID), ROWUPD (ROWID), TABLEUPD (ROWID), SERVICE (CHARACTER), RETCODE (NUMBER), STATUS1 (NUMBER), STATUS2 (NUMBER), STATUS3 (NUMBER), LIBRARY (CHARACTER), VIRTSIZE (NUMBER), CDATE4D (DATE), and UPDATE4D (DATE).

Field Name	Data Type
ISPEXEC	CHARACTER
TBSTATS	CHARACTER
table-name	CHARACTER
CDATE	DATE
CTIME	TIME
UDATE	DATE
UTIME	TIME
USER	CHARACTER
ROWCREAT	ROWID
ROWCURR	ROWID
ROWUPD	ROWID
TABLEUPD	ROWID
SERVICE	CHARACTER
RETCODE	NUMBER
STATUS1	NUMBER
STATUS2	NUMBER
STATUS3	NUMBER
LIBRARY	CHARACTER
VIRTSIZE	NUMBER
CDATE4D	DATE
UPDATE4D	DATE

## Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ◄◄

*OR*

```

➤ CALL — ISPLINK — ('TBSTATS_' — , — table-name — , — date-created-name —
                                     ' ' —
➤ , — time-created-name — , — date-updated-name —
                                     ' ' —
➤ , — time-updated-name — , — user-name — , — row-created-name —
                                     ' ' —
➤ , — rownum-name — , — row-updated-name —
                                     ' ' —
➤ , — table-updated-name — , — service-name —
                                     ' ' —
➤ , — return-code-name — , — status1-name — , — status2-name —
                                     ' ' —
➤ , — status3-name — , — library — , — virtual-storage-size-name —
                                     ' ' —
➤ , — date-created-name-4-digit — , — date-updated-name-4-digit — ); ➤
                                     ' ' —

```

## Return codes

**0**

Normal completion (returned even if the table does not exist).

**16**

Variable value has been truncated.

**20**

Severe error.

## TBTOP—set the row pointer to the top

### Command invocation format

```
➤ ISPEXEC — TBTOP — table-name ➤
```

### Call invocation format

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

OR

```
➤ CALL — ISPLINK — ('TBTOP_...' — , — table-name); ➤
```

## Return codes

<b>0</b>	Normal completion.
<b>12</b>	Table is not open.
<b>20</b>	Severe error.

## TBVCLEAR—clear table variables

## Command invocation format

➤ ISPEXEC — TBVCLEAR — *table-name* ➤

## Call invocation format

➤➤ CALL — ISPEXEC — (*buf-len*, — *buffer*); ➤➤

*OR*

➤ **CALL** — **ISPLINK** — ('TBVCLEAR' — , — *table-name*); ➤

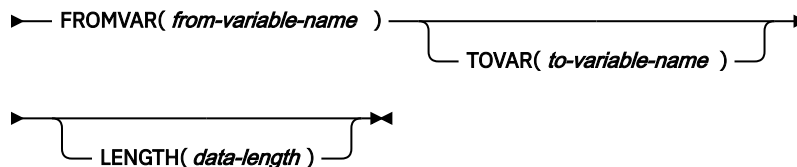
## Return codes

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

## TRANS—translate data from one Coded Character Set Identifier (CCSID) to another

## Command invocation format

► ISPEXEC — TRANS — FRMCCSID( *from-ccsid-number* ) — TOCCSID( *to-ccsid-number* ) ►



## Call invocation format

►► CALL — ISPEXEC — (*buflen*, — *buffer*); ◄◄

*OR*

►► CALL — ISPLINK — ('TRANS\_...' — ,from-ccsid-number ,to-ccsid-number ,from-variable-name →  
 → , to-variable-name , data-length ); ►►

## Return codes

- 0** Service completed successfully.
- 4** Translate tables do not support the requested "to ... from" combination. For a list of extended code page translate tables provided by ISPF, see the [z/OS ISPF Dialog Developer's Guide and Reference](#).
- 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 — , — 'LFORMAT_' — ); ◀◀
    └─ ' ' ─┘      └─ ' ' ─┘      └─ ' ' ─┘
```

### 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

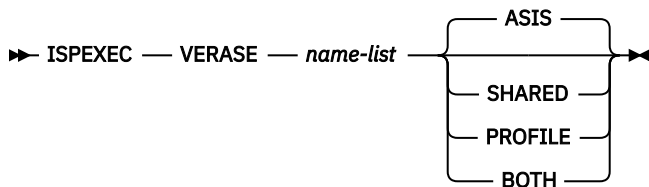
- 0** Normal completion.
- 8** At least one variable not found.

20

Severe error.

## VERASE—remove variables from shared and/or profile pool

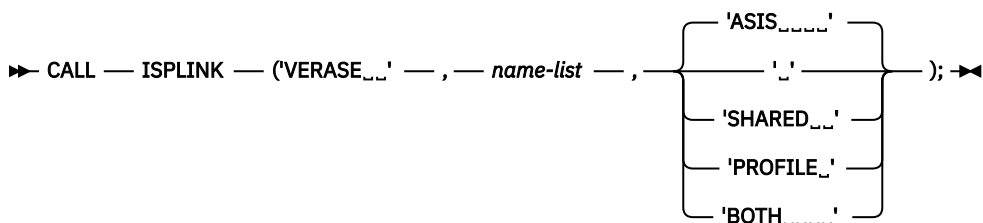
### Command invocation format



### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►►

OR



### Return codes

0

Normal completion.

8

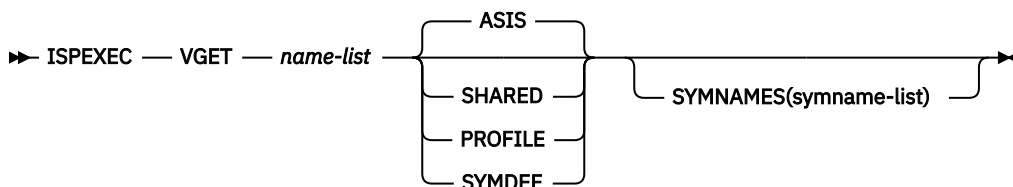
At least one variable not found.

20

Severe error.

## VGET—retrieve variables from a pool or profile or system symbol

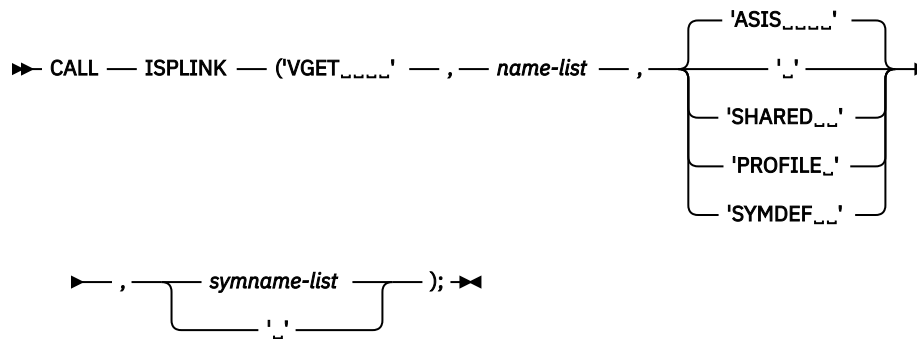
### Command invocation format



### Call invocation format

►► CALL — ISPEXEC — (*buf-len*, — *buffer*); ►►

OR

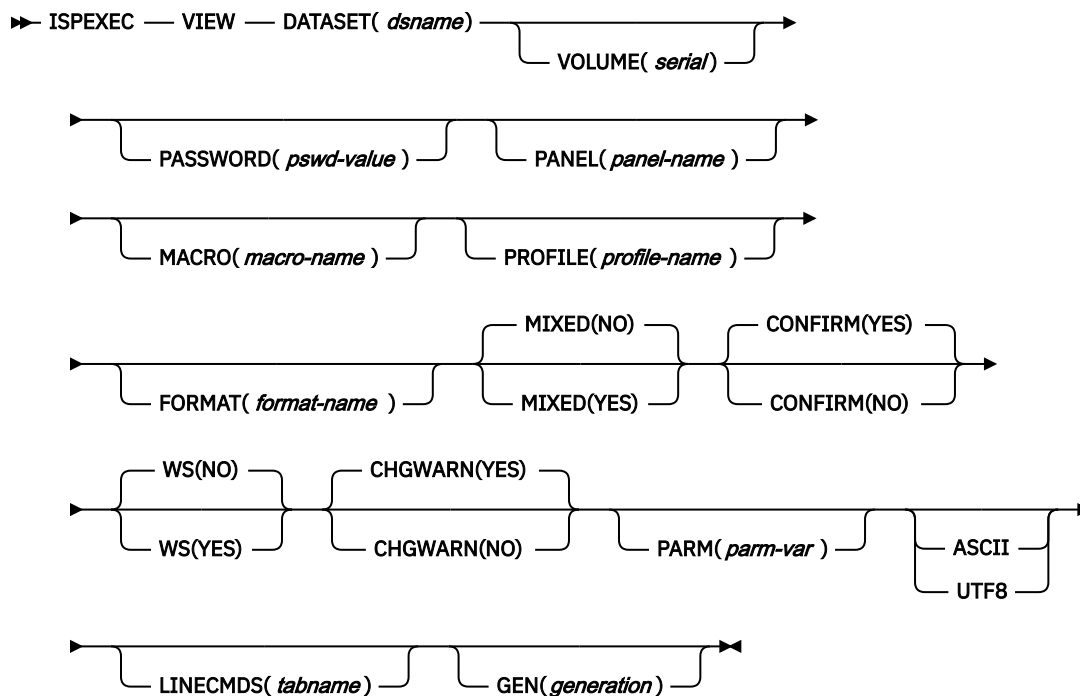


## Return codes

- 0**  
Normal completion.
- 8**  
Variable not found. If the SYMDEF parameter was specified: system symbol not found.
- 12**  
Validation failed.
- 16**  
Translation error or truncation occurred during data movement.
- 20**  
Severe error. If the SYMDEF parameter was specified: the number of symbol names in *symname-list* exceeds the number of names in *name-list*.

## VIEW—view a data set

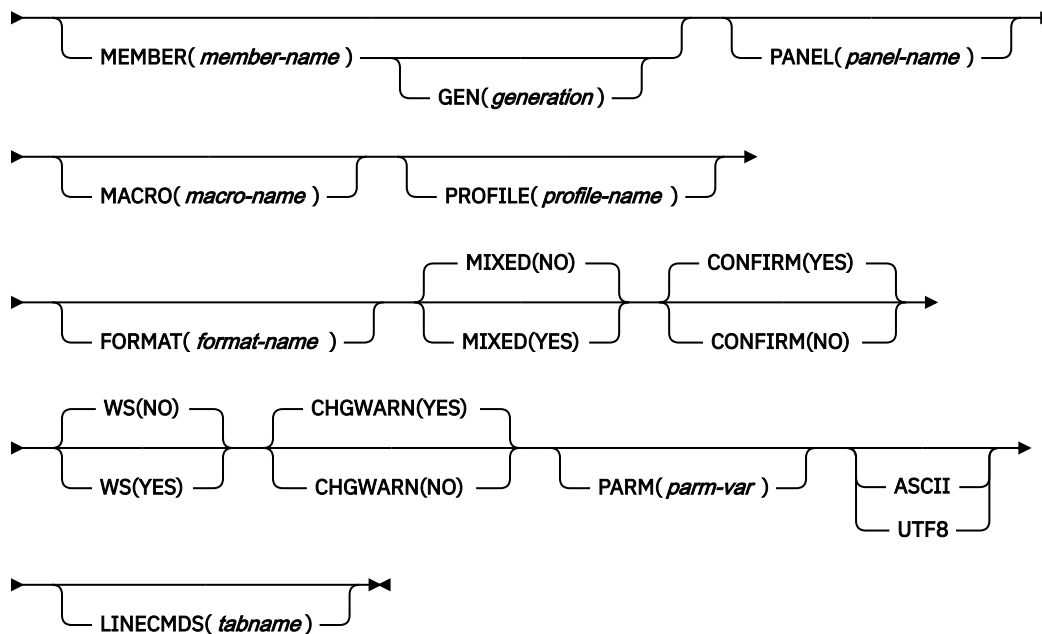
### Command invocation format



OR

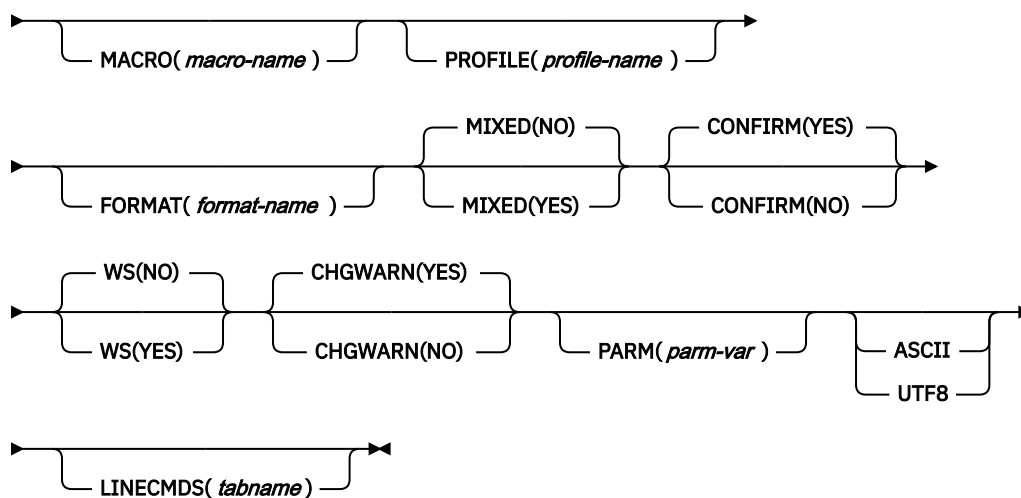
## VIEW service

►► ISPEXEC — VIEW — DATAID( *data-id* ) →

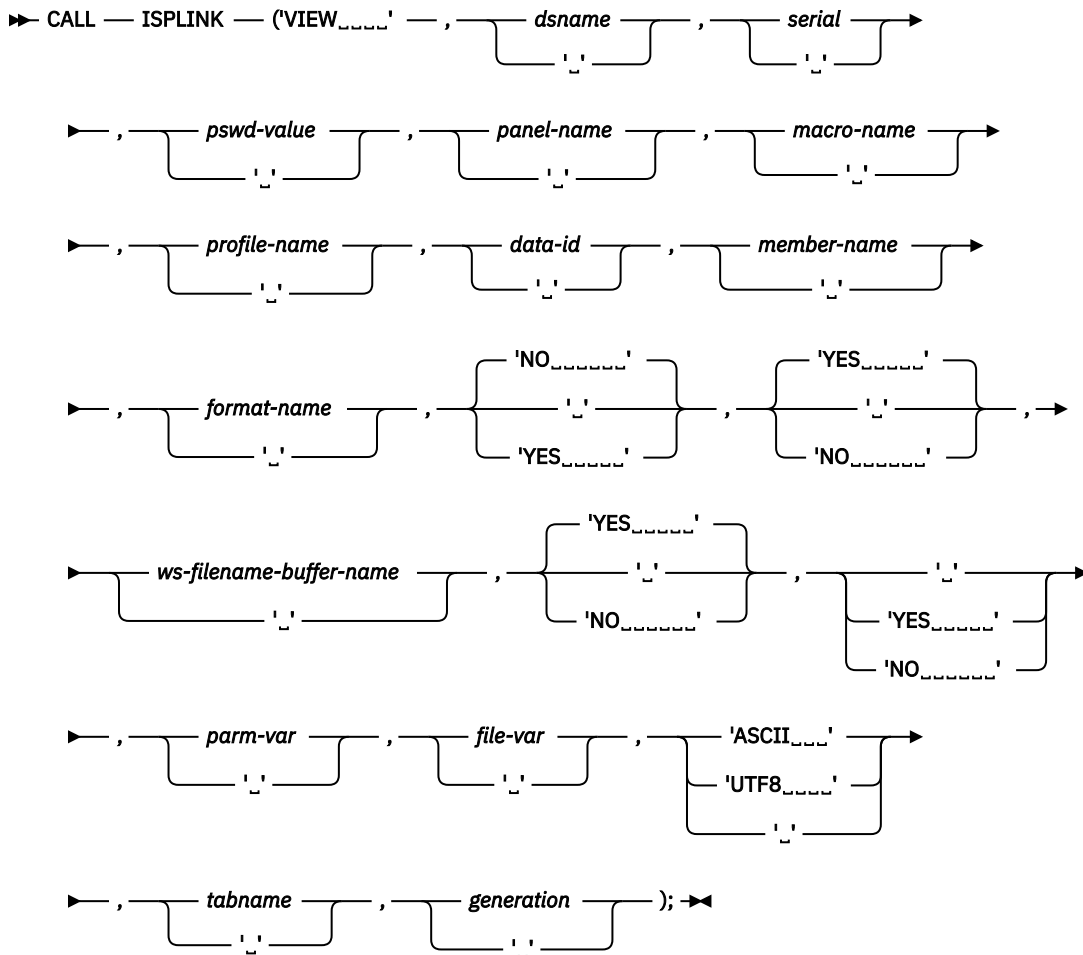


OR

►► ISPEXEC — VIEW — FILE( *file-var* ) →



## Call invocation format



OR

➤ CALL — ISPEXEC — (*buf-len* , — *buffer*); ➤

## Return codes

**0**

Normal completion. Browse was substituted for VIEW if insufficient storage was available to read in the requested data.

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

**10**

Member or generation (if specified) not found.

**12**

VIEW has been disabled through the ISPF configuration table or the ws-filename-buffer-name parameter was specified.

**14**

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

**16**

Either:

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

18

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

20

Severe error; unable to continue.

## VIIF—view interface

### Command invocation format

You cannot use command procedures to invoke this service.

### Call invocation format

```

▶▶ CALL — ISPLINK — ('VIIF_<u>      </u>' — , <u>data-name</u> , <u>profile-name</u> — , <u>rec-format</u> →

▶▶ , <u>rec-len</u> — , <u>read-routine</u> — , <u>cmd-routine</u> , <u>dialog-data</u> →

▶▶ , <u>edit-len</u> , <u>panel-name</u> , <u>macro-name</u> →

▶▶ , <u>format-name</u> , { <u>'NO_<u>      </u>'</u> , <u>'YES_<u>      </u>'</u> } , { <u>'NO_<u>      </u>'</u> , <u>'YES_<u>      </u>'</u> } →

▶▶ , <u>parm-var</u> , <u>write-routine</u> , { <u>'YES_<u>      </u>'</u> , <u>'NO_<u>      </u>'</u> } →

▶▶ , <u>tabname</u> ); ▶▶
  
```

OR

```

▶▶ CALL — ISPLINK — ('VIIF_<u>      </u>' — , <u>data-name</u> , <u>rec-format</u> , →

▶▶ <u>rec-len</u> , <u>read-routine</u> — , <u>cmd-routine</u> , <u>dialog-data</u> →

▶▶ , <u>      </u> , <u>      </u> , <u>      </u> , <u>      </u> , <u>      </u> , <u>'YES_<u>      </u>'</u> — , <u>      </u> , <u>write-routine</u> , <u>      </u> →

▶▶ , <u>tabname</u> ); ▶▶
  
```

**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 the system builds the initial view display, the VIIF service terminates with a return code of 20. Otherwise, the view data is redisplayed.
- 20** Severe error. (The VIIF service terminates immediately with a return code of 20.)

**Command routine return codes**

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

**VIIF return codes**

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

## VMASK—associate an edit mask with a dialog variable

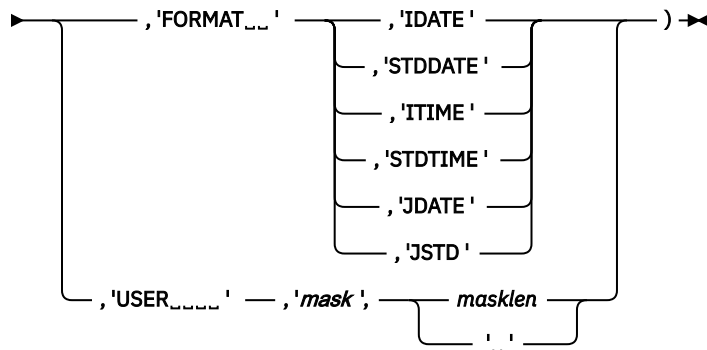
---

**Command invocation format**

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

## Call invocation format

➤ CALL — ISPLINK — ('VMASK' — ,*name-list* →

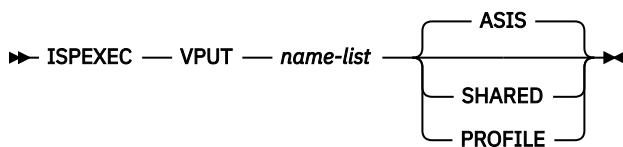


## Return codes

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

## VPUT—update variables in the shared or profile pool

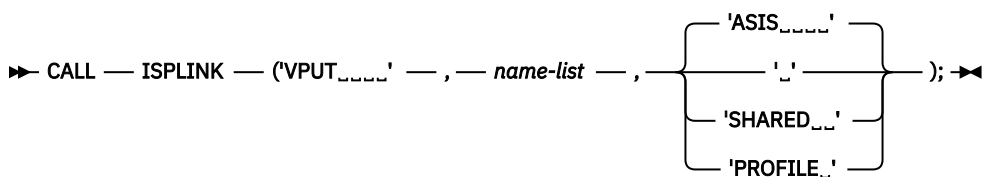
### Command invocation format



### Call invocation format

➤ CALL — ISPEXEC — (*buf-len* , — *buffer*); →

OR



## 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\_####' — , — *name-list*); ►◄

### Return codes

- 0** Normal completion.
- 4** One or more symbol names not substituted (no corresponding system symbol was found).
- 8** Variable not found in function pool.
- 12** Validation failed.
- 16** Truncation occurred resolving system symbols.
- 20** Severe error.

## 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*.

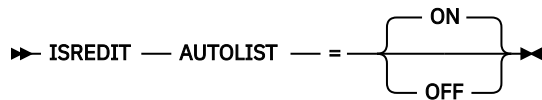
### AUTOLIST - set or query Autolist mode

#### Macro command syntax



#### Assignment statement syntax

ISREDIT — (varname) — = — AUTOLIST —>



#### Return codes

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

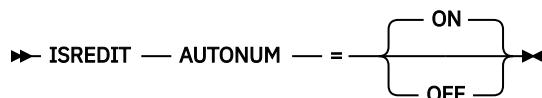
### AUTONUM—set or query Autonum mode

#### Macro command syntax



#### Assignment statement syntax

ISREDIT — (varname) — = — AUTONUM —>

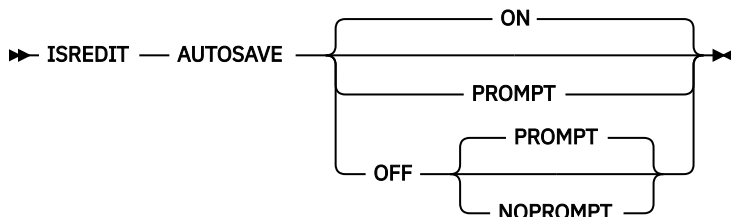


#### Return codes

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

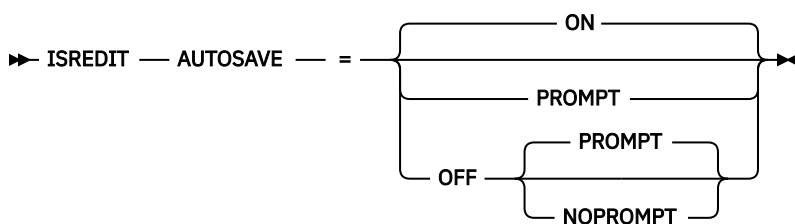
## AUTOSAVE—set or query Autosave mode

### Macro command syntax



### Assignment statement syntax

ISREDIT — (*var1, var2*) — = — AUTOSAVE →



### Return codes

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

## BLKSIZE—query the block size

### Assignment statement syntax

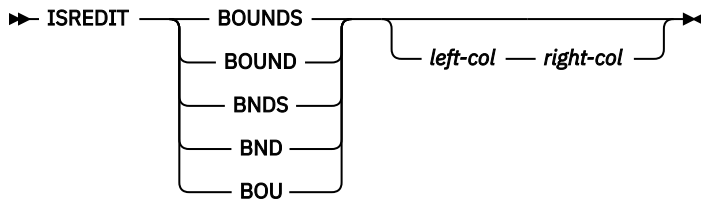
ISREDIT — (*varname*) — = — BLKSIZE →

### Return codes

- 0** Normal completion.  
**Note:** For a z/OS UNIX file, the BLKSIZE assignment statement returns a value of 0.
- 12** Syntax error.
- 20** Severe error.

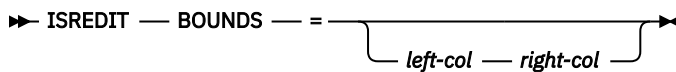
## BOUNDS—set or query the edit boundaries

### Macro command syntax



### Assignment statement syntax

>> ISREDIT — (*var1, var2*) — = — BOUNDS —>>



### Return codes

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

## BROWSE—browse from within an edit session

### Macro command syntax

>> ISREDIT — BROWSE — *member* —>>

### Return codes

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

## BUILTIN—process a built-in command

### Macro command syntax

>> ISREDIT — BUILTIN — *cmdname* —>>

## Return codes

- n**  
Return code from the built-in command.
- 20**  
Severe error.

## CANCEL—cancel edit changes

---

### Macro command syntax

►► ISREDIT — CANCEL ►◄

### Return codes

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

## CAPS—set or query Caps mode

---

### Macro command syntax

►► ISREDIT — CAPS — { ON  
OFF } ►◄

### Assignment statement syntax

►► ISREDIT — (*varname*) — = — CAPS ►◄

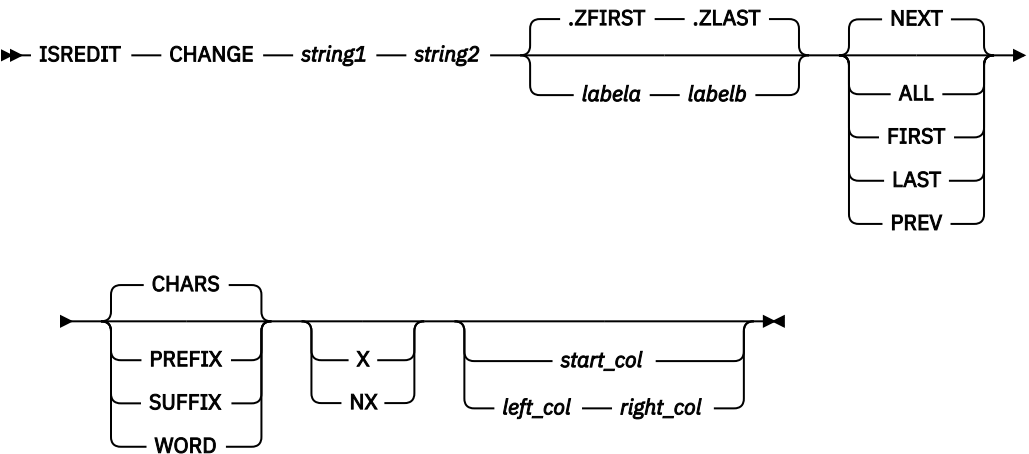
►► ISREDIT — CAPS — = — { ON  
OFF } ►◄

### Return codes

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

## CHANGE—change a search string

### Macro command syntax



### 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

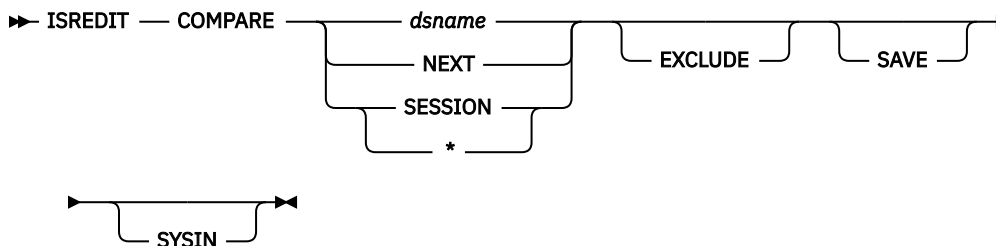
➤ ISREDIT — (*var1*,*var2*) — = — CHANGE\_COUNTS —>

### Return codes

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

## COMPARE—compare data set

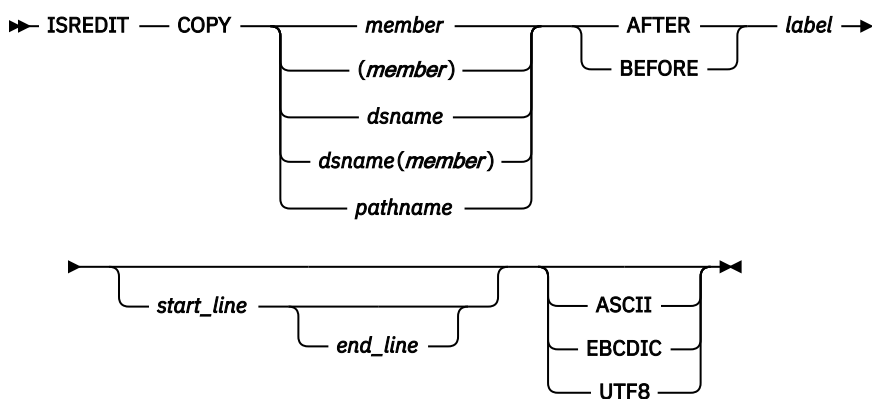
### Macro command syntax



### 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

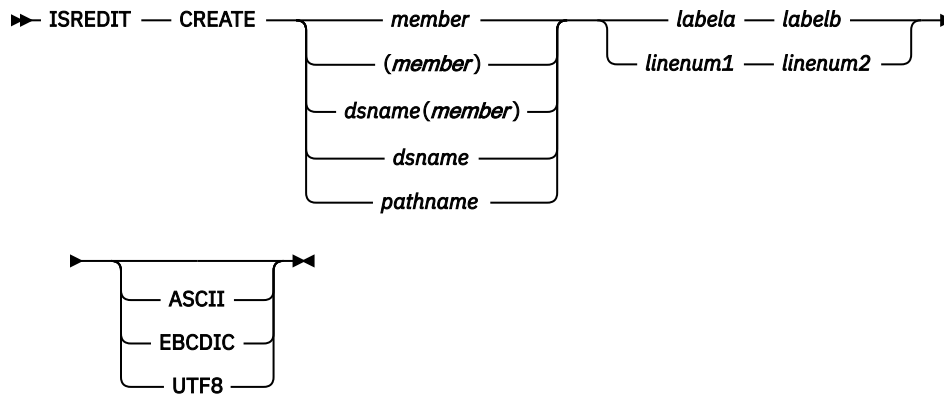


### Return codes

- 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

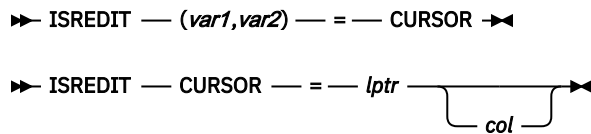


### Return codes

- 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

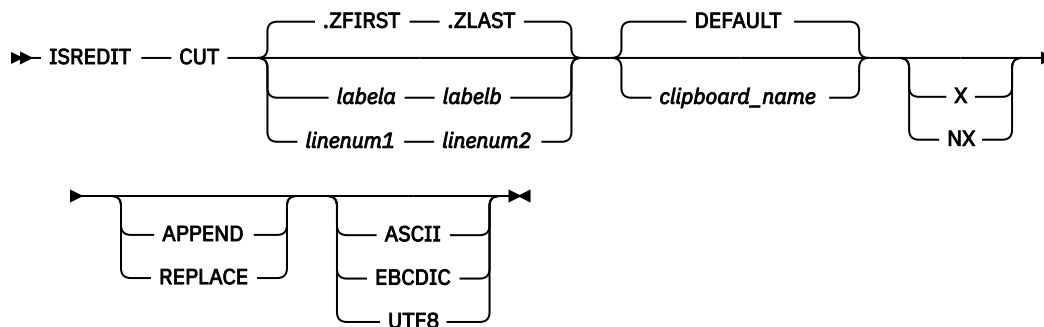


### Return codes

- 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



### Return codes

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

## DATA\_CHANGED—query the data changed status

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — DATA\_CHANGED ➤

### Return codes

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

## DATA\_WIDTH—query data width

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — DATA\_WIDTH ➤

### Return codes

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

## DATAID—query data ID

---

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — DATAID ➤

### Return codes

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

## DATASET—query the current data set name

---

### Assignment statement syntax

➤ ISREDIT — (*var1,var2,var3*) — = — DATASET ➤

### Return codes

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

## DEFINE—define a name

---

### Macro command syntax

➤ ISREDIT — DEFINE — *name* — {  
     MACRO — CMD  
     MACRO — PGM  
     ALIAS — *name-2*  
     NOP  
     RESET  
     DISABLED  
 } ➤

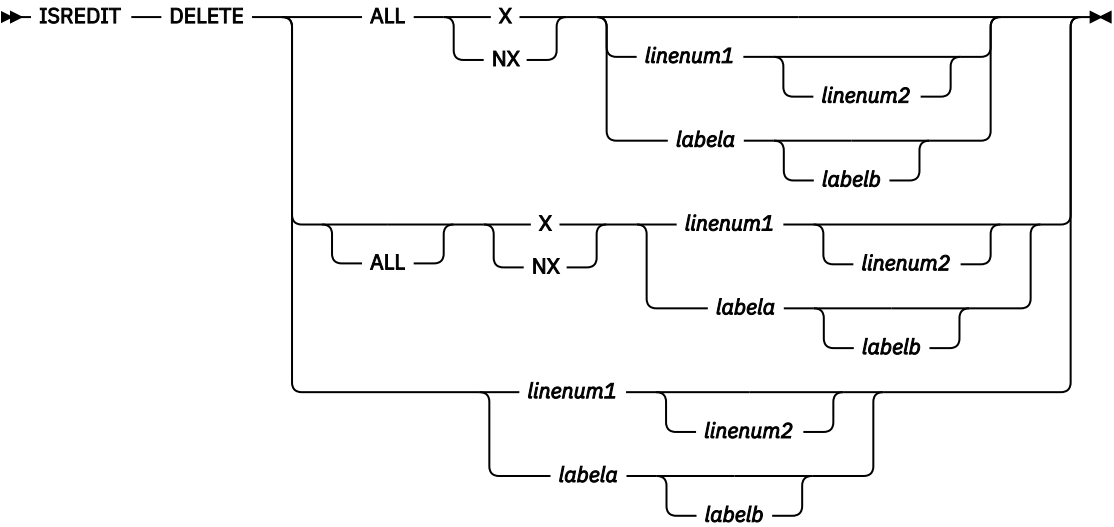
### Return codes

- 0**  
Normal completion.
- 8**  
RESET was attempted for a name not currently defined, or DEFINE name ALIAS *name-2* requested and *name-2* is a NOP.
- 12**  
DEFINE was attempted for a name not currently defined.

**20**  
Severe error (unknown command).

## DELETE—delete lines

### Macro command syntax



### Return codes

**0**  
Normal (lines deleted successfully).

**4**  
No lines deleted.

**8**  
No standard records exist.

**12**  
Invalid line number.

**20**  
Severe error.

## DISPLAY\_COLS—query display columns

### Assignment statement syntax

➤ ISREDIT — (*var1, var2*) — = — DISPLAY\_COLS — ➤

### Return codes

**0**  
Normal completion.

**12**  
Invalid command format.

**20**  
Severe error.

## DISPLAY\_LINES—query display lines

---

### Assignment statement syntax

► ISREDIT — (*var1, var2*) — = — DISPLAY\_LINES ►

### Return codes

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

## DOWN—scroll down

---

### Macro command syntax

► ISREDIT — DOWN — *amt* ►

### Return codes

- 0**  
Normal completion.
- 2**  
No more data DOWN.
- 4**  
No visible lines.
- 8**  
No data to display.
- 12**  
Amount not specified.
- 20**  
Severe error.

## EDIT—edit from within an edit session

---

### Macro command syntax

► ISREDIT — EDIT — *member* ►

### Return codes

- 0**  
Normal completion. Data was saved.

**END edit macro**

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

**O**

Normal completion.

4

New member saved.

12

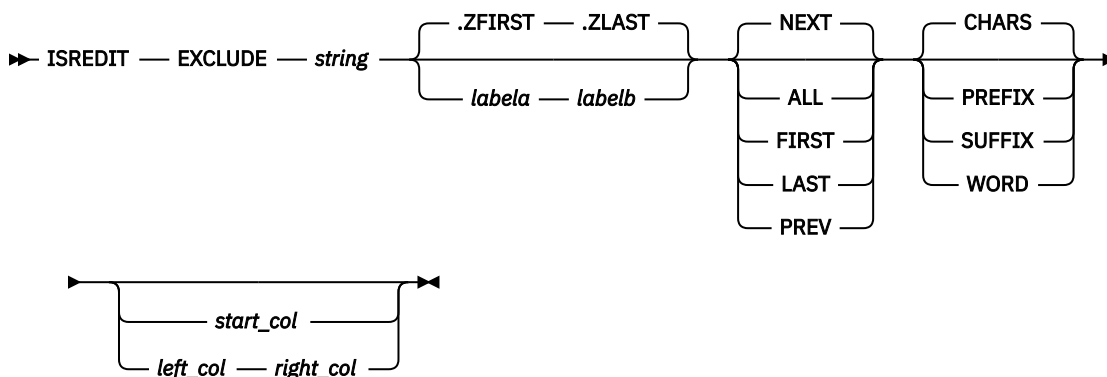
END not done, AUTOSAVE OFF PROMPT set, or Data not saved (insufficient space).

20

Severe error.

## EXCLUDE—exclude lines from the panel

## Macro command syntax



## Return codes

**O**

Normal completion.

4

String not found.

- 8**  
Line(s) not excluded.
- 12**  
Inconsistent parameters
- 20**  
Severe error.

## EXCLUDE\_COUNTS—query exclude counts

---

### Assignment statement syntax

► ISREDIT — (*var1,var2*) — = — EXCLUDE\_COUNTS ◀

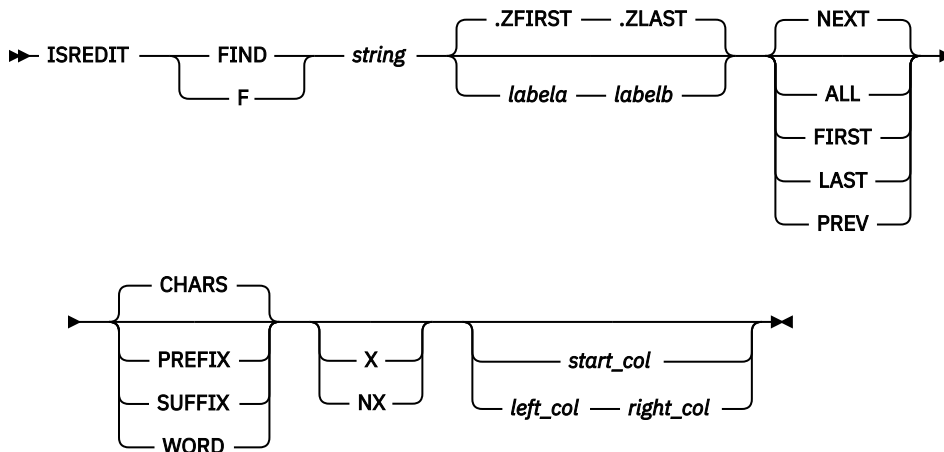
### Return codes

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

## FIND—find a search string

---

### Macro command syntax



### Return codes

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

## FIND\_COUNTS—query find counts

---

### Assignment statement syntax

►► ISREDIT — (*var1,var2*) — = — FIND\_COUNTS —◄◄

### Return codes

**0**

Normal completion.

**12**

Invalid command format.

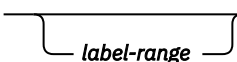
**20**

Severe error.

## FLIP—reverse excluded status of lines

---

### Macro command syntax

►► ISREDIT — FLIP —  —◄◄

### 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.

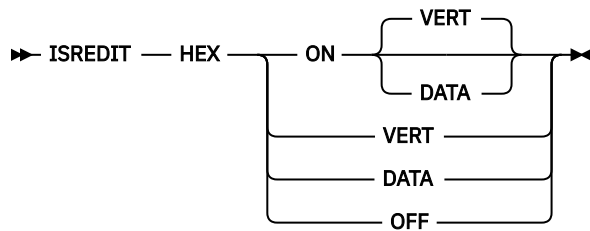
**20**

Severe error.



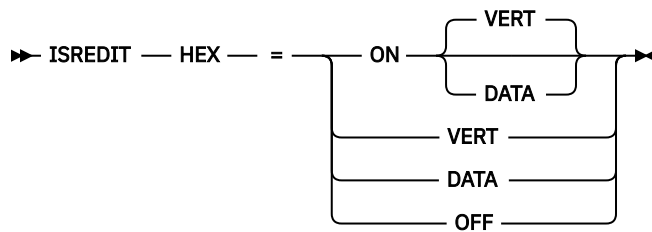
## HEX—set or query Hexadecimal mode

### Macro command syntax



### 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**

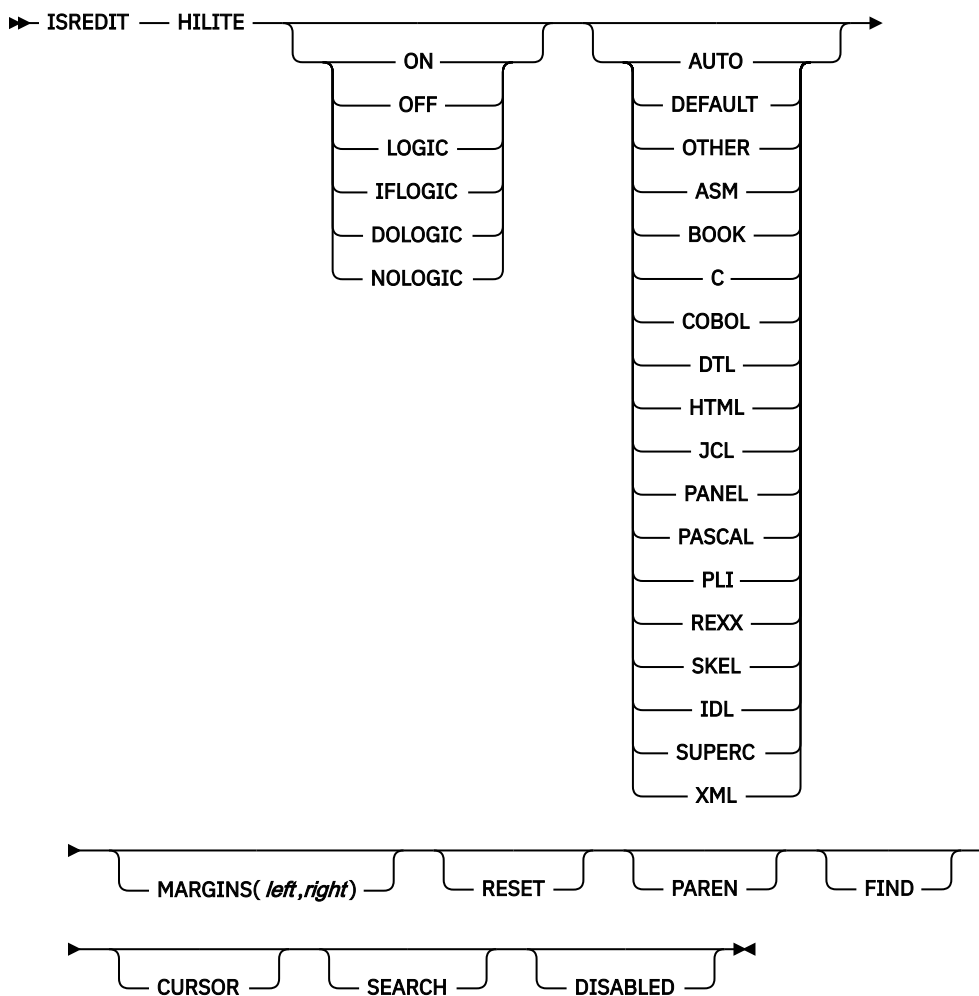
Normal completion.

**20**

Severe error.

## HILITE—enhanced edit coloring

### Macro command syntax



### Return codes

**0**

Normal completion.

**8**

One of the following conditions:

- LOGIC or SEARCH not supported in the current environment
- Invalid language
- HILITE unavailable.

**12**

One of the following conditions:

- HILITE dialog is invalid from an edit macro
- HILITE not available because of the installation defaults
- HILITE not available because the edit panel in use is not enabled for enhanced color
- Other error encountered.

20

Severe error. Possibly extra parameters.

## IMACRO—set or query an initial macro

---

### Macro command syntax

➤ ISREDIT — IMACRO — *name* ➤  
                                   NONE

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — IMACRO ➤

➤ ISREDIT — IMACRO — = — *name* ➤

### Return codes

0

Normal completion.

4

IMACRO set not accepted; profile is locked.

12

Invalid name specified.

20

Severe error.

## INSERT—prepare display for data insertion

---

### Macro command syntax

➤ ISREDIT — INSERT — *lptr* — *numlines* ➤

### Return codes

0

Normal completion.

12

Invalid line number.

20

Severe error.

## LABEL—set or query a line label

---

### Assignment statement syntax

➤ ISREDIT — (*var1, var2*) — = — LABEL — *lptr* ➤

➤ ISREDIT — LABEL — *lptr* — = — *labelname* — *level* ➤

## Return codes

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

## LEFT—scroll left

---

### Macro command syntax

►► ISREDIT — LEFT — *amt* ►◄

## Return codes

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

## LEVEL—set or query the mod level number

---

### Macro command syntax

►► ISREDIT — LEVEL — *num* ►◄

### Assignment statement syntax

►► ISREDIT — (*varname*) — = — LEVEL ►◄

►► ISREDIT — LEVEL — = — *num* ►◄

## Return codes

- 0**  
Normal completion.
- 4**  
Statistics mode is off; the command is ignored.
- 12**  
Invalid value specified.

20

Severe error.

## LF—realign data on the ASCII linefeed character

---

### Macro command syntax

➤ ISREDIT — LF ➤

### Return codes

0

Normal completion.

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

---

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — LINE — *lptr* ➤

➤ ISREDIT — LINE — *lptr* — = — *data* ➤

### Return codes

0

Normal completion.

4

Data truncated (line shorter than data supplied).

8

Variable not found.

12

Invalid line number.

16

Variable data truncated.

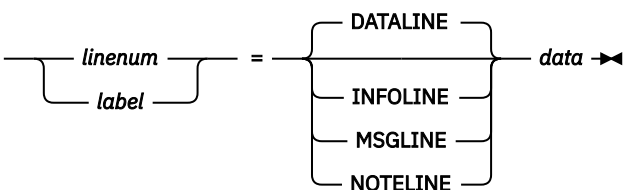
20

Severe error.

## LINE\_AFTER—add a line to the current data set

---

### Assignment statement syntax

➤ ISREDIT — LINE\_AFTER —  ➤

### Return codes

0

Normal completion.

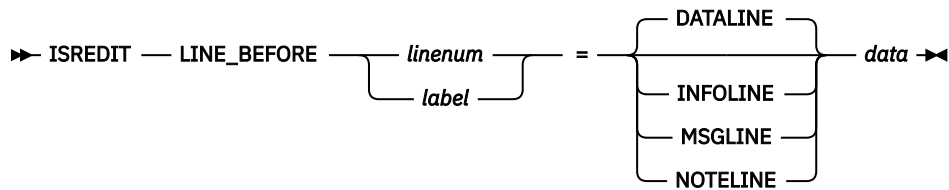
## LINE\_BEFORE edit macro

- 4** Data truncated.
- 12** Invalid line number.
- 20** Severe error.

## LINE\_BEFORE—add a line to the current data set

---

### Assignment statement syntax



### Return codes

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

## LINE\_STATUS—query source and change information for a line in a data set

---

### Assignment statement syntax

➤ **ISREDIT** — (*varname*) — = — **LINE\_STATUS** — *lptr* ➤

### Return codes

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

## LINENUM—query the line number of a labeled line

---

### Assignment statement syntax

➤ **ISREDIT** — (*varname*) — = — **LINENUM** — *label* ➤

**Return codes**

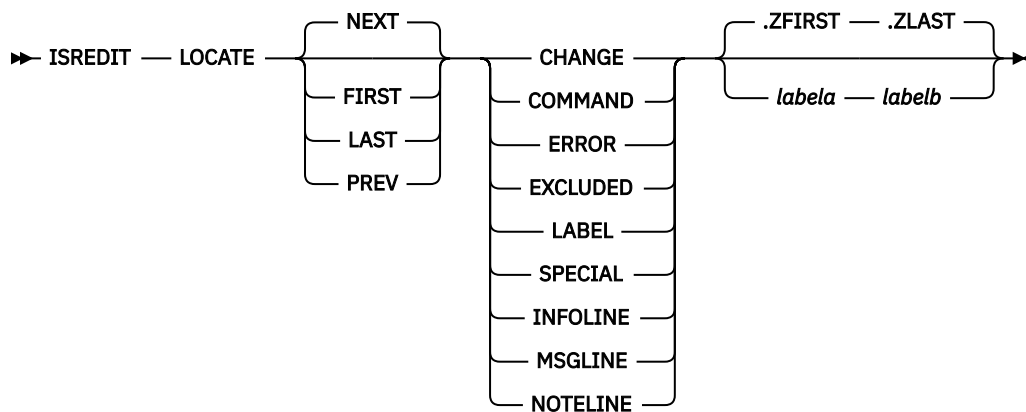
- 0** Normal completion.
- 4** Line 0 specified.
- 8** Label specified, but not found (variable set to 0).
- 12** Invalid line number.
- 20** Severe error.

## LOCATE—locate a line

---

**Specific locate syntax**

➤ ISREDIT — LOCATE — *lptr* ➤

**Generic locate syntax****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 ➤

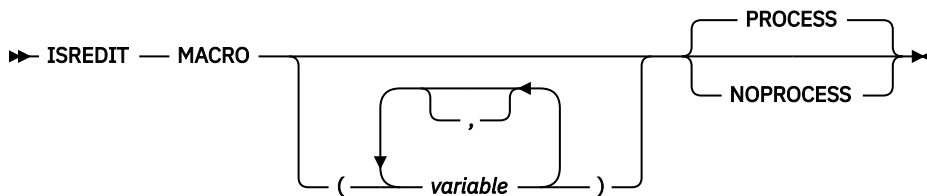
### Return codes

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

## MACRO—identify an edit macro

---

### Macro command syntax



### 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.

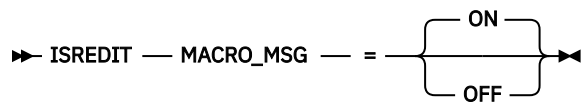
## MACRO\_MSG—set or query the macro message switch

---

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — MACRO\_MSG ➤





### Return codes

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

## MASKLINE—set or query the mask line

---

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — MASKLINE ➤

➤ ISREDIT — MASKLINE — = — *data* ➤

### Return codes

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

## MEMBER—query the current member name

---

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — MEMBER ➤

### Return codes

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

## MEND—end a macro in the batch environment

### Macro command syntax

► ISREDIT — MEND ►

### Return codes

**0**

Normal completion.

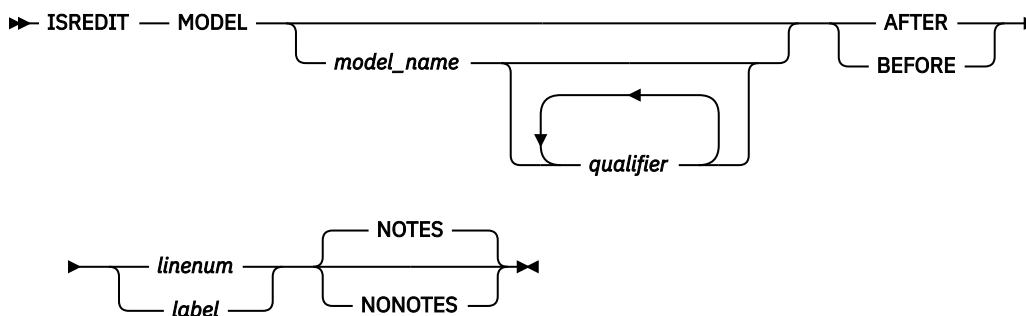
**20**

Severe error.

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

## MODEL—copy a model into the current data set

### Macro command model name syntax



### 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).

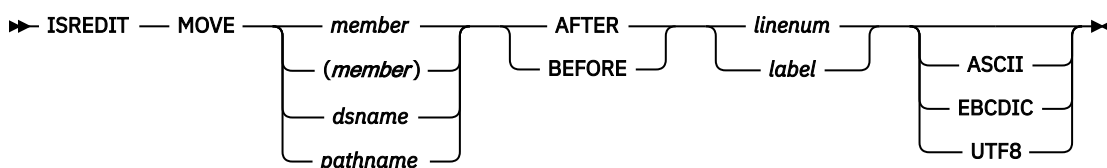
**12**

Invalid line pointer.

**20**

Severe error.

## MOVE—move a data set member



**Return codes**

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

**NONUMBER—turn off Number mode**

---

**Syntax**

➤ ISREDIT — NONUMBER ➤

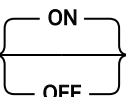
**Return codes**

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

**NOTES—set or query Note mode**

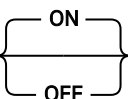
---

**Macro command syntax**

➤ ISREDIT — NOTES  ➤

**Assignment statement syntax**

➤ ISREDIT — (*varname*) — = — NOTES ➤

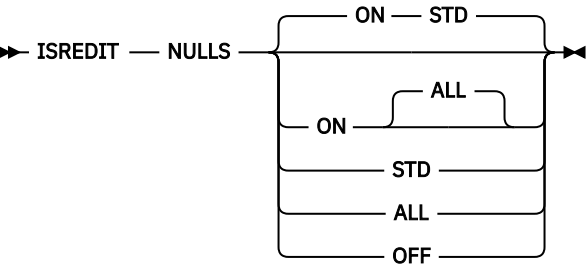
➤ ISREDIT — NOTES — =  ➤

**Return codes**

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

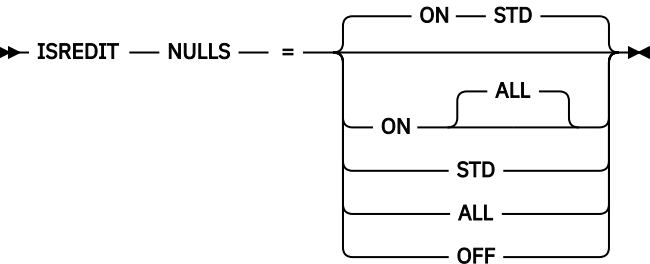
# NULLS—set or query Nulls mode

## Macro command syntax



## Assignment statement syntax

➤ ISREDIT — (var1,var2) — = — NULLS ➤

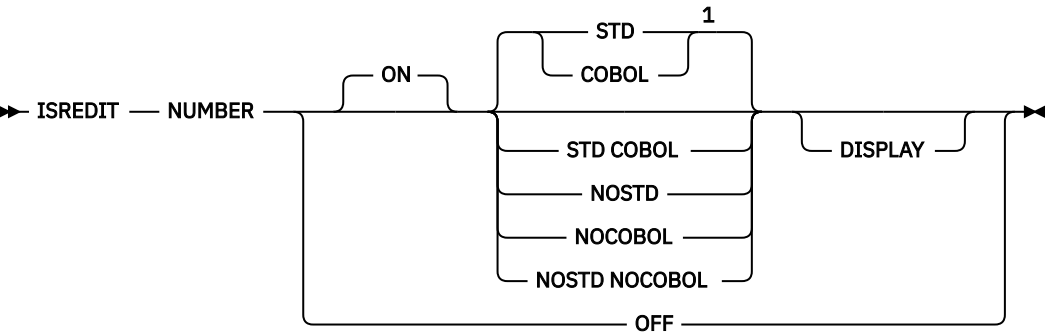


## Return codes

- 0 Normal completion.
- 20 Severe error.

# NUMBER—set or query Number mode

## Macro command syntax

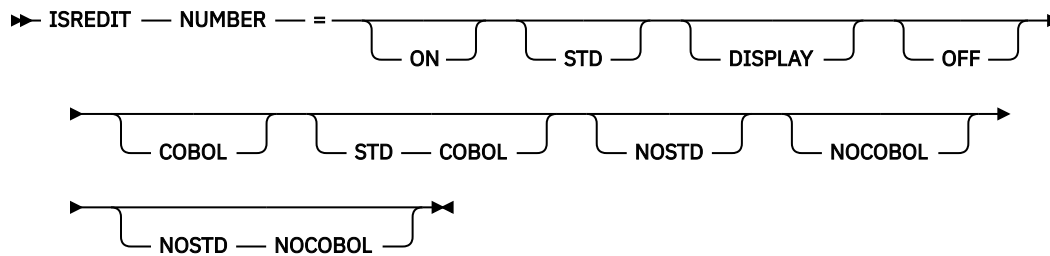


Notes:

<sup>1</sup> STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.

## Assignment statement syntax

►► ISREDIT — (*var1, var2*) — = — NUMBER ►◄



## Return codes

0

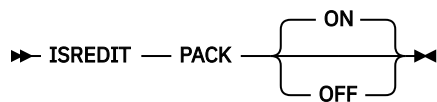
Normal completion.

20

Severe error.

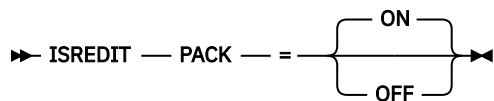
## PACK—set or query Pack mode

### Macro command syntax



## Assignment statement syntax

►► ISREDIT — (*varname*) — = — PACK ►◄



## Return codes

0

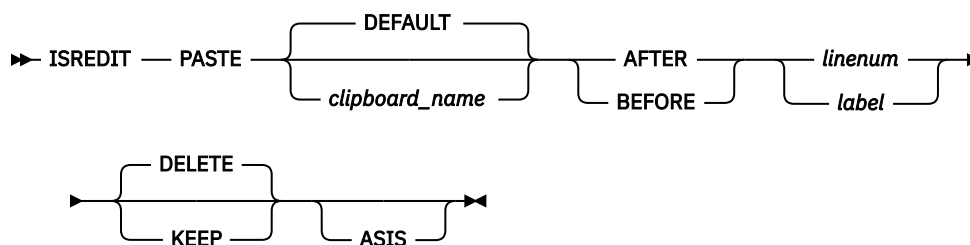
Normal completion.

20

Severe error.

## PASTE—move or copy lines from clipboard

### Macro command syntax



## 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



### Assignment statement syntax

➡ ISREDIT — (*varname*) — = — PRESERVE ➡



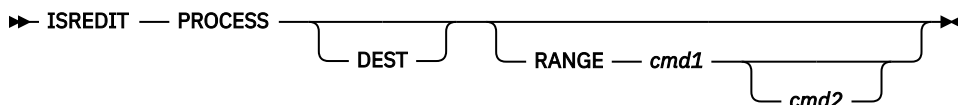
## Return codes

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

## PROCESS—process the panel

---

### Macro command syntax



## 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 —  ➤

### Macro command profile lock syntax

➤ ISREDIT — PROFILE —  ➤

### Macro command profile reset syntax

➤ ISREDIT — PROFILE — RESET ➤

### Assignment statement syntax

➤ ISREDIT — (var1,var2) — = — PROFILE ➤

### Return codes

**0**

Normal completion.

**20**

Severe error.

## RANGE\_CMD—query a command that you entered

---

### Assignment statement syntax

➤ ISREDIT — (varname) — = — RANGE\_CMD ➤

### Return codes

**0**

Normal completion.

**4**

Line command not set.

**8**

Line command setting not acceptable.

20

Severe error.

## RCHANGE—repeat a change

---

### Macro command syntax

➤ ISREDIT — RCHANGE ➤

### Return codes

0

Normal completion.

4

String not found.

8

Change error (string-2 longer than string-1 and substitution was not performed on at least one change).

12

Syntax error.

20

Severe error.

## RECFM—query the record format

---

### Assignment statement syntax

➤ ISREDIT — (var1,var2) = — RECFM ➤

### Return codes

0

Normal completion.

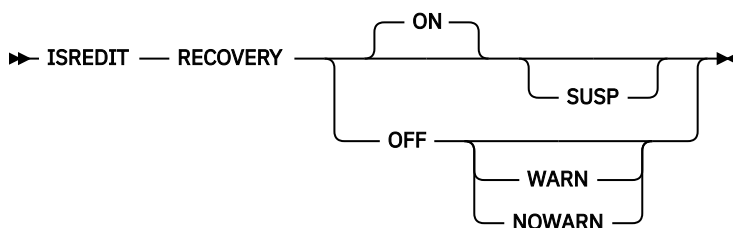
20

Severe error.

## RECOVERY—set or query Recovery mode

---

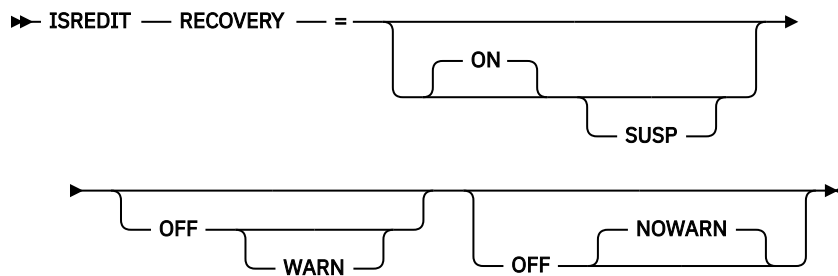
### Macro command syntax



### Assignment statement syntax

➤ ISREDIT — (var1, — var2) = — RECOVERY ➤



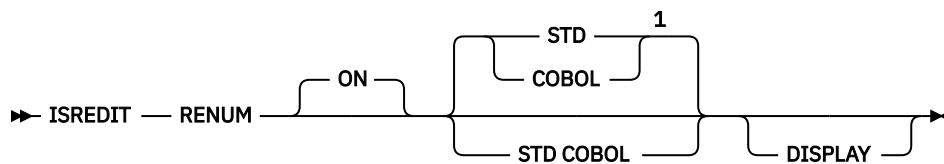


## Return codes

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

## RENUM—renumber data set lines

### Macro command syntax



Notes:

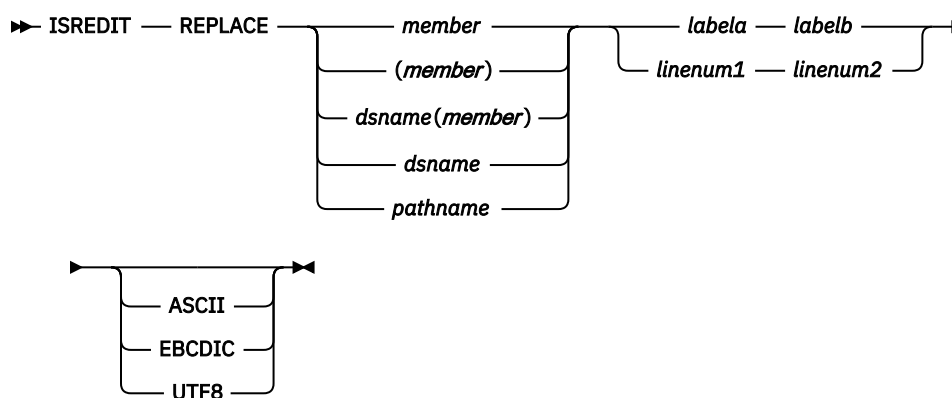
- <sup>1</sup> STD is the default for non-COBOL data set types. COBOL is the default for COBOL data set types.

## Return codes

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

## REPLACE—replace a data set or data set member

### Macro command syntax

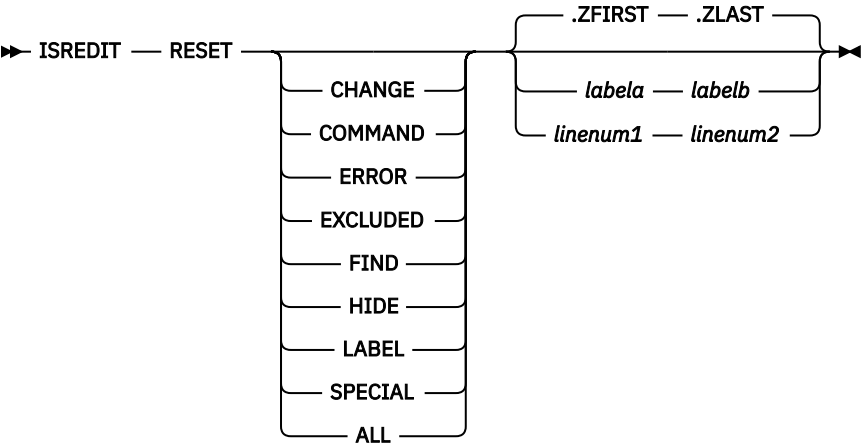


Return codes

- 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



Return codes

- 0 Normal completion.
- 20 Severe error.

RFIND—Repeat Find

Macro command syntax

ISREDIT — RFIND

Return codes

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

## RIGHT—scroll right

---

### Macro command syntax

► ISREDIT — RIGHT — *amt* ◄

### Return codes

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

## RMACRO—set or query the recovery macro

---

### Macro command syntax

► ISREDIT — RMACRO — 
*name*  
NONE
 ◄

### Assignment statement syntax

► ISREDIT — (*varname*) — = — RMACRO ◄

► ISREDIT — RMACRO — = — 
*name*  
NONE
 ◄

### Return codes

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

## SAVE—save the current data

---

### Macro command syntax

► ISREDIT — SAVE ◄

## Return codes

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

## SAVE\_LENGTH—set or query length for variable-length data

---

### Macro command syntax

- ISREDIT — (*variable*) — = — SAVE\_LENGTH — .*lptr* ➤
- ISREDIT — SAVE\_LENGTH — .*lptr* — = — *value* ➤

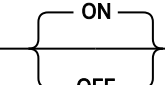
### Return codes

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

## SCAN—set command scan mode

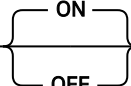
---

### Macro command syntax

- ISREDIT — SCAN —  ➤

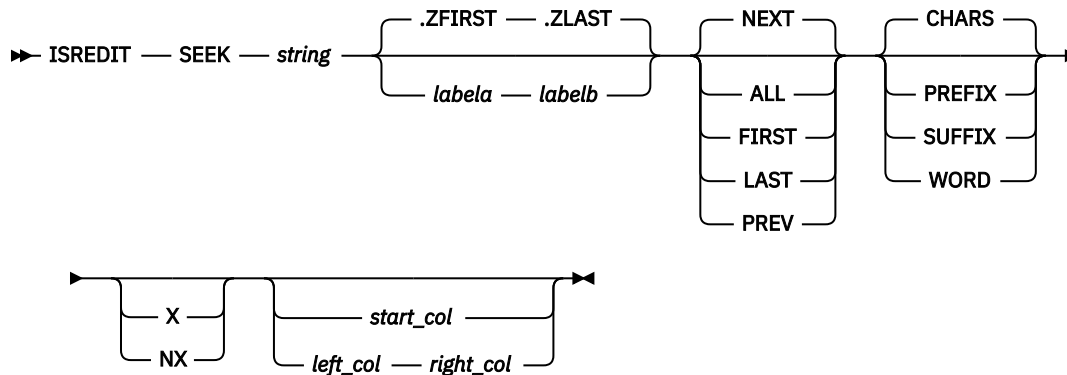
### Assignment statement syntax

- ISREDIT — (*varname*) — = — SCAN ➤

- ISREDIT — SCAN — = —  ➤

**Return codes**

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

**SEEK—seek a data string, positioning the cursor****Macro command syntax****Return codes**

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

**SEEK\_COUNTS—query seek counts****Assignment statement syntax**

➤ ISREDIT — (var1,var2) — = — SEEK\_COUNTS ➤

**Return codes**

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

**SESSION—identify type of session****Assignment statement syntax**

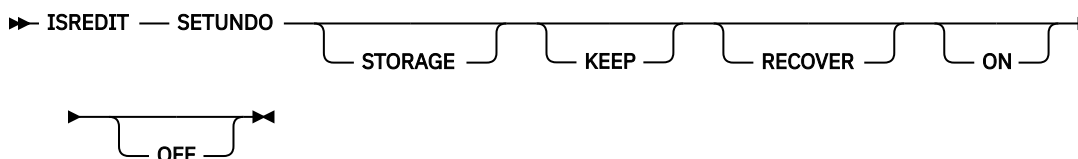
➤ ISREDIT — (var1,var2) — = — SESSION ➤

**Return codes**

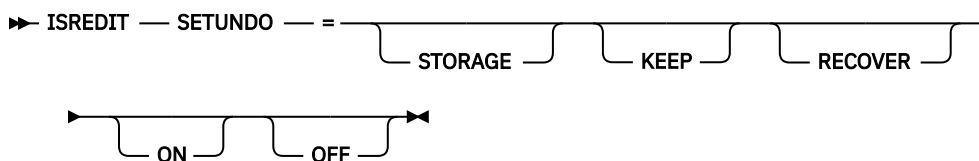
- 0**  
Normal completion.
- 20**  
Severe error.

**SETUNDO—set UNDO mode**

---

**Macro command syntax****Assignment statement syntax**

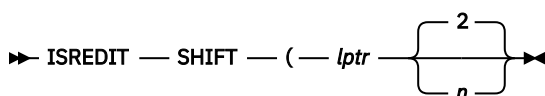
➤ ISREDIT — (*varname*) — = — SETUNDO ➤

**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)**

---

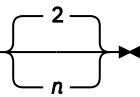
**Macro command syntax****Return codes**

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

## SHIFT ) —shift columns right

---

### Macro command syntax

➤ ISREDIT — SHIFT — ) — *lptr* — 

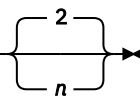
### Return codes

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

## SHIFT <—shift data left

---

### Macro command syntax

➤ ISREDIT — SHIFT — < — *lptr* — 

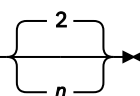
### Return codes

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

## SHIFT > —shift data right

---

### Macro command syntax

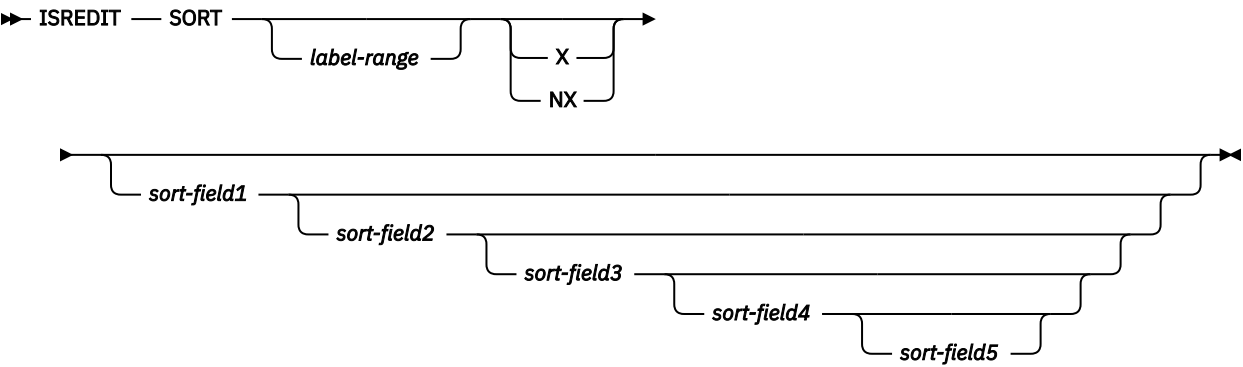
➤ ISREDIT — SHIFT — > — *lptr* — 

### Return codes

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

# SORT—sort data

## Macro command syntax



## 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

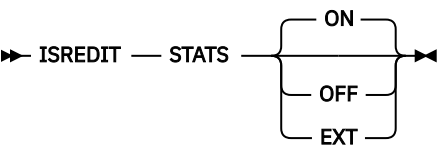
ISREDIT — SOURCE — *character\_encoding* →

## Return codes

- 0 Normal completion.

# STATS—set or query Stats mode

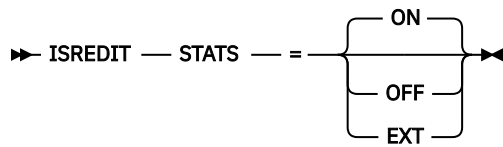
## Macro command syntax





**Assignment statement syntax**

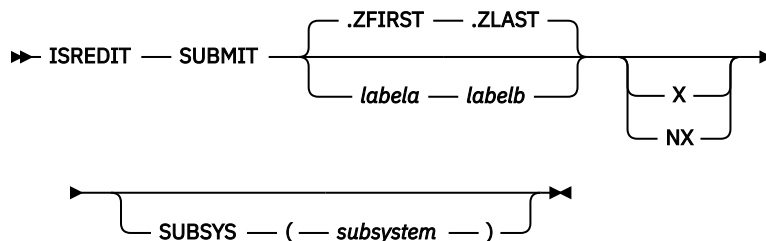
►► ISREDIT — (*varname*) — = — STATS ►◄

**Return codes****0**

Normal completion.

**20**

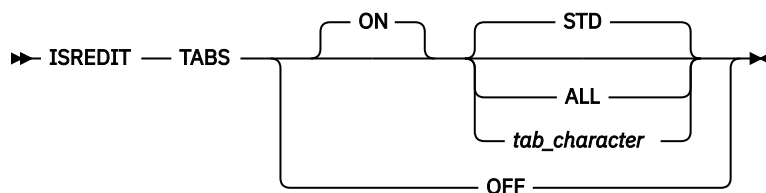
Severe error.

**SUBMIT—submit data for batch processing****Macro command syntax****Return codes****0**

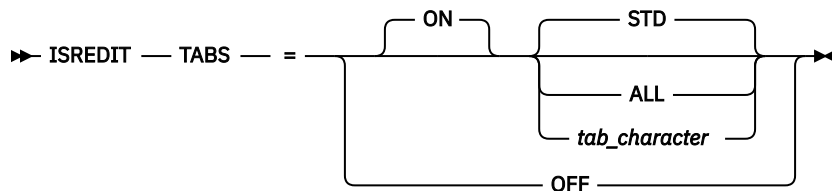
Normal completion.

**20**

Severe error (submit failed).

**TABS—set or query Tabs mode****Macro command syntax****Assignment statement syntax**

►► ISREDIT — (*var1, var2*) — = — TABS ►◄



### Return codes

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

## TABSLINE—set or query tabs line

---

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — TABSLINE ➤

➤ ISREDIT — TABSLINE — = — *data* ➤

### Return codes

- 0**  
Normal completion.
- 4**  
Data truncated.
- 8**  
Invalid data detected and ignored.
- 20**  
Severe error (invalid input).

## TENTER—set up panel for text entry

---

### Macro command syntax

➤ ISREDIT — TENTER — *lptr* — *numlines* ➤

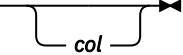
### Return codes

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

## TFLOW—text flow a paragraph

---

### Macro command syntax

►► ISREDIT — TFLOW — *lptr* —  ►

### Return codes

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

## TSPLIT—text split a line

---

### Macro command syntax

►► ISREDIT — TSPLIT —  ►

### Return codes

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

## UNNUMBER—remove sequence numbers

---

### Macro command syntax

►► ISREDIT — UNNUMBER ►

### Return codes

- 0** Normal completion.
- 12** Number mode not on.
- 20** Severe error.

## UP—scroll up

---

### Macro command syntax

➤ ISREDIT — UP — *amt* ➤

### Return codes

**0**

Normal completion.

**2**

No more data UP.

**4**

No visible lines.

**8**

No data to display.

**12**

Amount not specified.

**20**

Severe error.

## USER\_STATE—save or restore user state

---

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — USER\_STATE ➤

➤ ISREDIT — USER\_STATE — = — (*varname*) ➤

### Return codes

**0**

Normal completion.

**20**

Severe error.

## VERSION—set or query version number

---

### Macro command syntax

➤ ISREDIT — VERSION — *num* ➤

### Assignment statement syntax

➤ ISREDIT — (*varname*) — = — VERSION ➤

➤ ISREDIT — VERSION — = — *num* ➤

### Return codes

**0**

Normal completion.

- 4**  
Stats mode is off, the command is ignored.
- 12**  
Invalid value specified (the version must be 1 to 99).
- 20**  
Severe error.

## VIEW—view from within an edit session

---

### Macro command syntax

►► ISREDIT — VIEW — *member* ◄◄

### Return codes

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

## VOLUME—query volume information

---

### Assignment statement syntax

►► ISREDIT — (*var1,var2,var3*) — = — VOLUME ◄◄

### Return codes

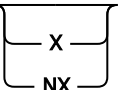
- 0**  
Normal completion.
- 4**  
The data set is a multivolume data set and the shared pool variable ZEDMVOL is set to contain all the volume serial numbers of the data set. ZEDMVOL has the length of the number of volumes times six.
- 20**  
Severe error.

## XSTATUS—set or query exclude status of a line

---

### Assignment statement syntax

►► ISREDIT — (*varname*) — = — XSTATUS — *lptr* ◄◄

►► ISREDIT — XSTATUS — *lptr* — = —  ◄◄

### 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.

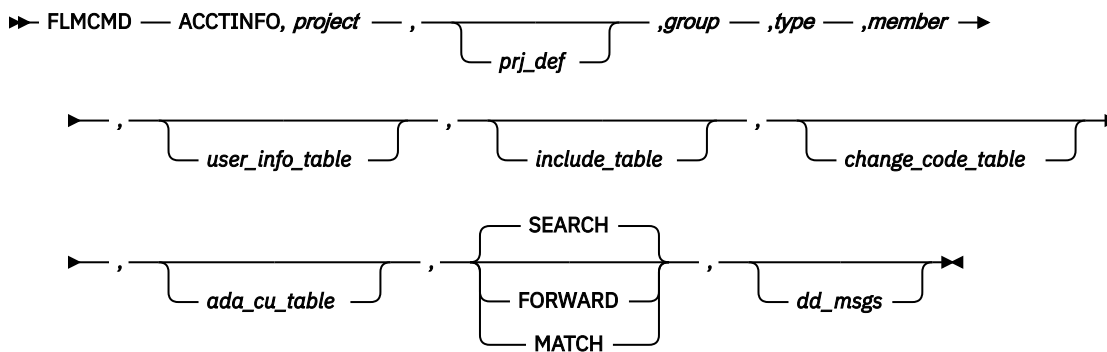
## Chapter 5. SCLM services and macros

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*.

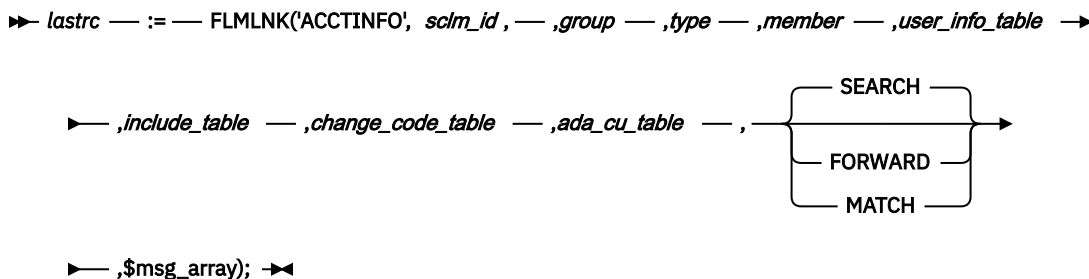
### SCLM services

#### ACCTINFO—retrieve accounting information

##### Command invocation format



##### Call invocation format



##### 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.

**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**

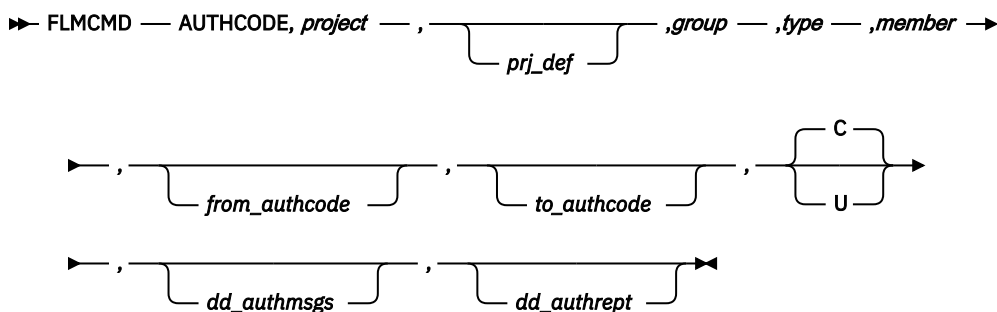
Severe error condition. An invalid service was requested.

**36**

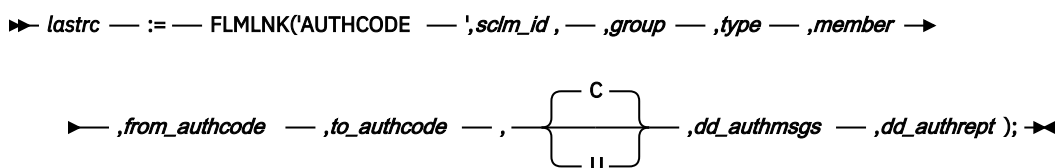
Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## AUTHCODE—set or retrieve an AUTHCODE

### Command invocation format



### Call invocation format



### 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.



**12**

Severe error condition. Accounting record not found or severe error.

**16**

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.

**20**

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

**24**

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

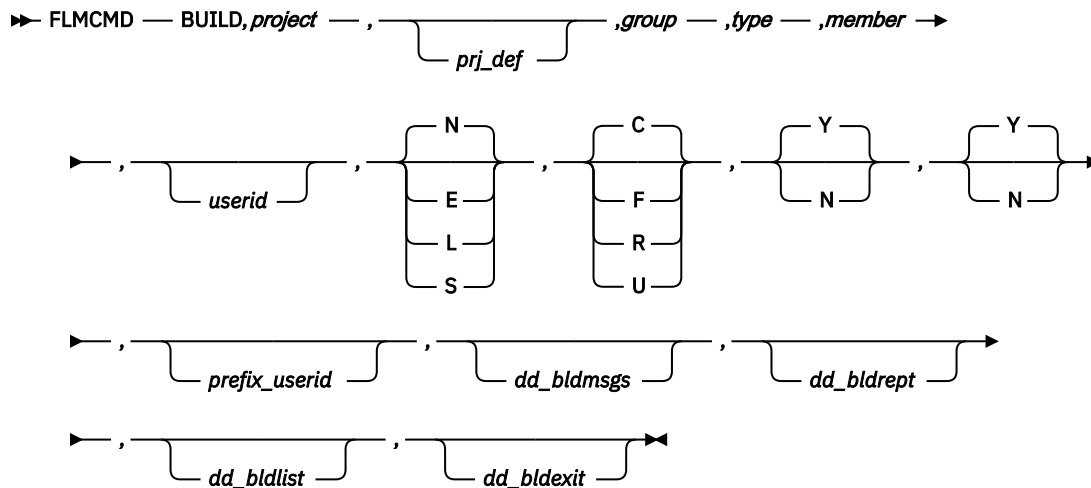
**32**

Severe error condition. SCLM does not produce messages for one of 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.

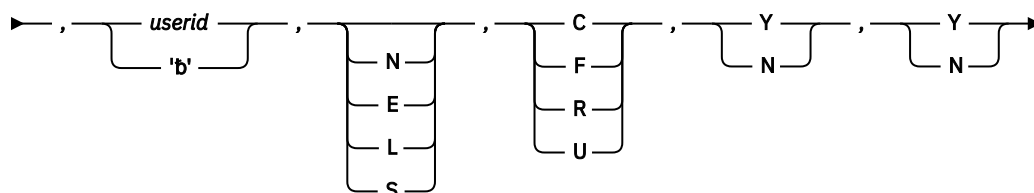
## BUILD—build a member

### Command invocation format



## Call invocation format

► *lastrc* — := — FLMLNK('BUILDbbb' — ,*sclm\_id* — ,*group* — ,*type* — ,*member* — ►



► , *prefix\_userid* — , *dd\_bldmsgs* — , *dd\_bldrept* — , *dd\_bldlist* — , *dd\_bldexit* ); ►

## Return codes

- 0**  
Normal completion.
- 4**  
Warning condition.
- 8**  
Error condition.
- 12**  
Severe error condition. Messages are not produced. Error invoking the Build module.
- 16**  
Severe error condition. Messages are not produced. Unable to retrieve SCLM ID information.
- 20**  
Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24**  
Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32**  
Severe error condition. Messages are not produced for one of 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

```
►► lastrc — := — FLMLNK('DBACCTbb', sclm_id — ,group — ,type — ,member — ,found_group →  

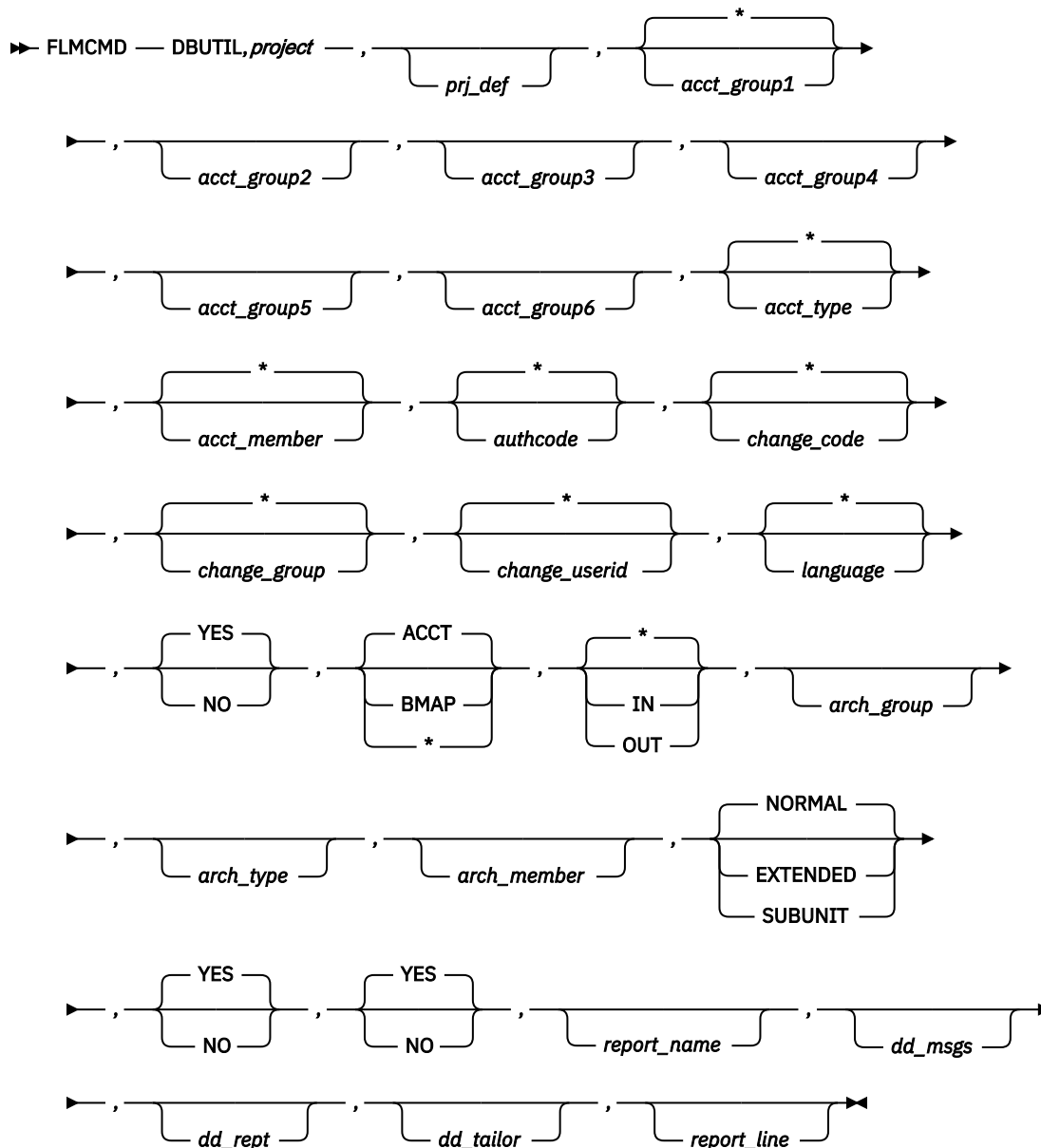
    ► — ,sacct_info — ,slist_info — ,msg_array); ►◄
```

## 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



### Call invocation format

You cannot use call procedures to start this service.

### Return codes

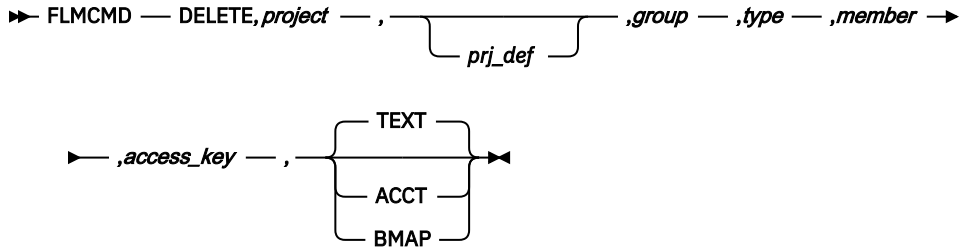
- 0 Normal completion.
- 4 Warning condition.
- 8 Error condition.

&gt;8

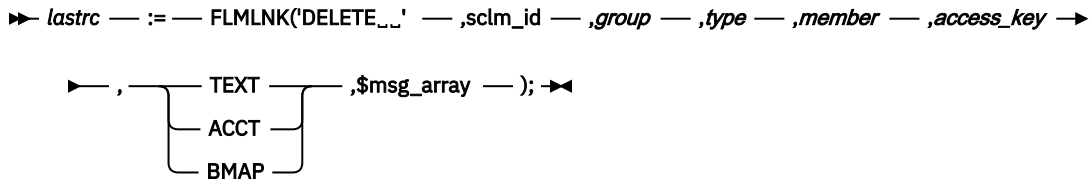
Severe error condition. Messages are not produced.

## DELETE—delete database components

### Command invocation format



### Call invocation format

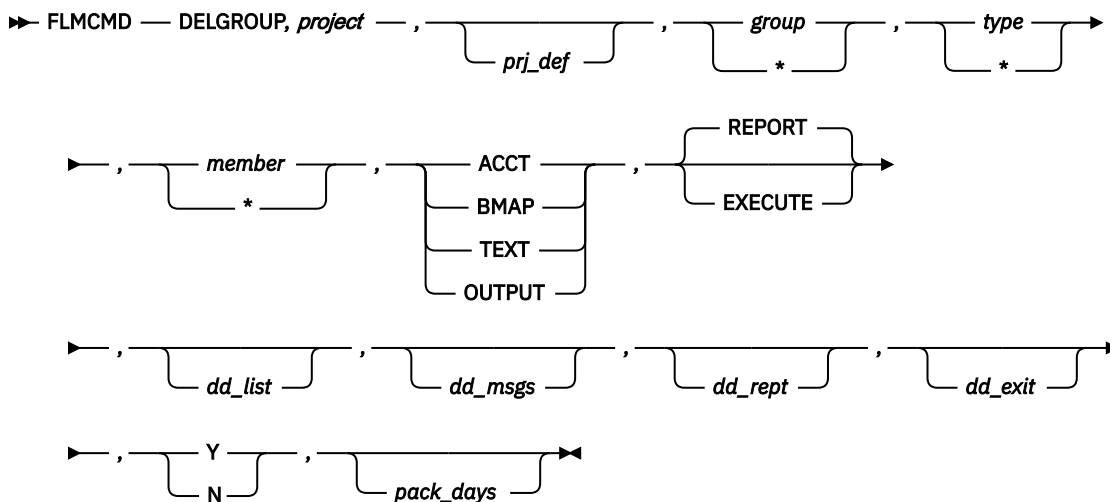


### Return codes

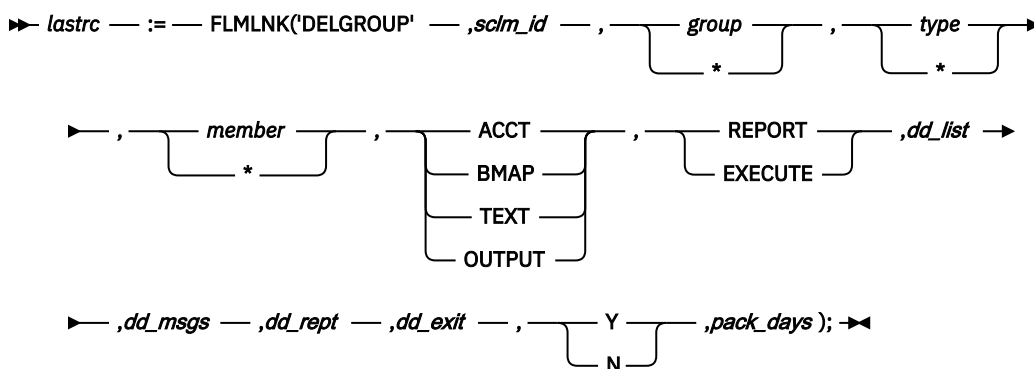
- 0**  
Normal completion.
- 4**  
Warning condition. The member, accounting record, or build map were not found.
- 8**  
Error condition.
- 20**  
Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24**  
Severe error condition. Messages are not produced. SCLM services have not been 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



### Call invocation format



### Return codes

- 0** Normal completion.
- 4** Warning condition.
- 8** Error condition.
- 12** Severe error condition. SCLM does not produce messages because there was an error invoking the DELGROUP module.
- 16** Severe error condition. SCLM does not produce messages because it was unable to retrieve SCLM ID information.
- 20** Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24** Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.

32

Severe error condition. SCLM does not produce messages for one of 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

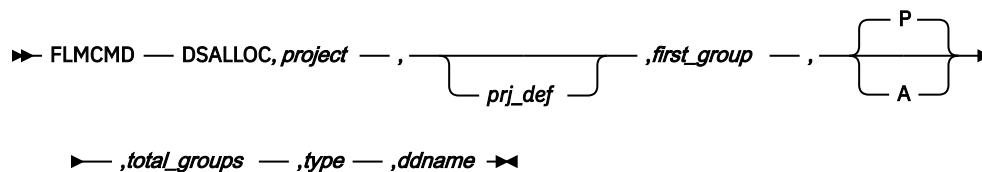
Severe error condition. An invalid service was requested.

36

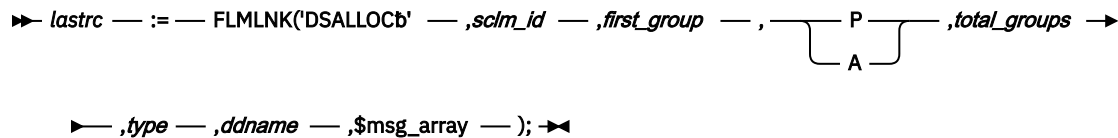
Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## DSALLOC—allocate data sets for group/type

## Command invocation format



## Call invocation format



## 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.

36

Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## EDIT— edit a member of a controlled library

## Command invocation format

► FLMCMD — EDIT, *project* — , *prj\_def* — , *group1* — , *group2* — , *group3* — , *group4* — , *type* — , *member* — , { N / Y } — , *imac* — , *prof* — , { Y / N } — , { N / Y } — , { N / Y } — , *authcode* — , *chgcode* — , *volser* — , { N / Y } — , *dd editmsg* ; ►

## Call invocation format

```

▶▶ lastrc — := — FLMLNK('EDIT', sclm_id — ,group1 — ,group2 — ,group3 — ,group4 — ,type →
    ▶▶ ,member — , — Y — ,imac — ,prof — , — Y — , — Y —
        N
    ▶▶ , — Y — , — Y —
        N
    ▶▶ —————— );
        ,authcode ——————
            , — chgcode ——————
                ,volser ——————
                    ,dd editmsg

```

## Return codes

Possible return codes are:

**O**

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

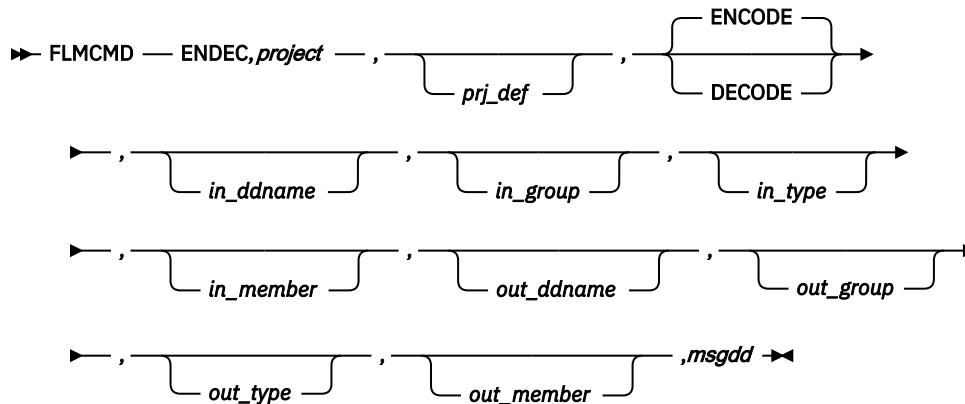
➤ *lastrc* — := — FLMLNK('ENDbbbb', *appl\_id* — ,*msg\_line*); ➤

### Return codes

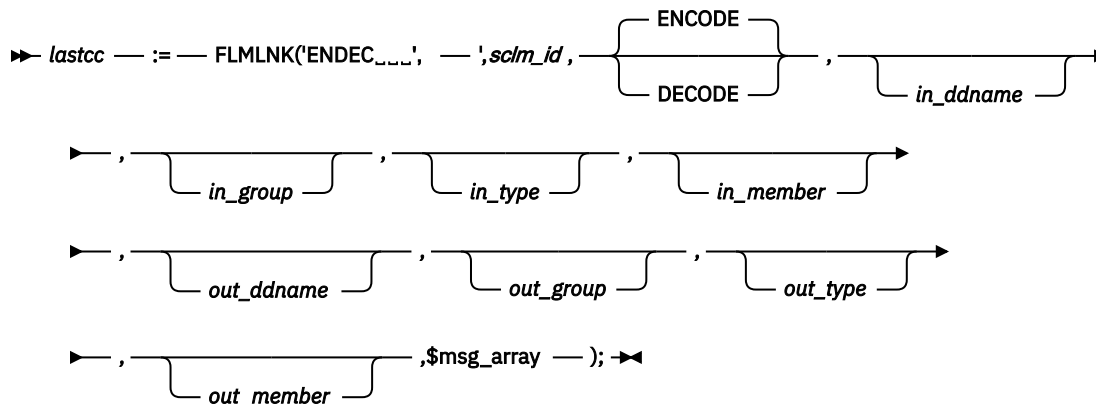
- 0** Normal completion.
- 4** Warning condition. Unable to free an SCLM ID associated with the application ID.
- 8** Error condition.
- 24** Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32** Severe error condition. SCLM does not produce messages for one of 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



### Call invocation format



### Return codes

0

Normal completion. The encoding and decoding was performed.

4

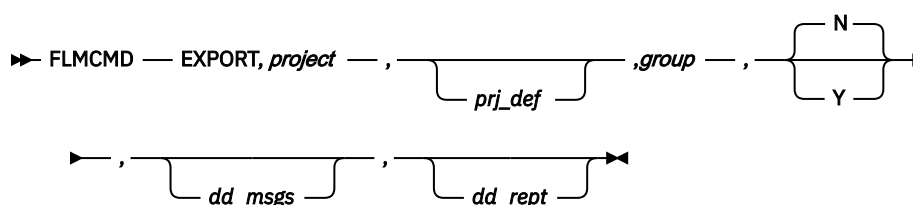
Warning if ENCODE was specified, the input data set and member is already encoded. If DECODE was specified, the input data set and member is already decoded.

12

Error completion. Refer to the messages for more information.

## EXPORT—extract SCLM accounting information for a group

### Command invocation format



## Call invocation format

```

➤ lastrc — := — FLMLNK('EXPORT' — ,sclm_id — ,group — , — Y — ,dd_msgs →
      N —
      ↪ — ,dd_rept — ); ➤

```

## Return codes

- 0** Normal completion.
- 4** Warning condition.
- 8** Error condition.
- 12** Severe error condition. SCLM does not produce messages because there was an error invoking the IMPORT module.
- 16** Severe error condition. SCLM does not produce messages because it was unable to retrieve SCLM ID information.
- 20** Severe error condition. SCLM does not produced messages because the SCLM ID is invalid.
- 24** Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32** Severe error condition. SCLM does not produce messages for one of 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

```

➤ lastrc — := — FLMLNK('FREE' — ,sclm_id — ,msg_line); ➤

```

## Return codes

- 0** Normal completion.

- 8** Error condition.
- 24** Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32** Severe error condition. Messages are not produced. One of 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.

## GETBLDMP—retrieve build map information

### Command invocation format

```

➤ FLMCMD — GETBLDMP, project — , ————— ,group — ,type — ,member →
                               |
                               | prj_def
                               |
➤ ————— ,bmap_table — , —————
                               |
                               | dd_msgs
                               |
➤ —————

```

### Call invocation format

```

➤ lastrc — := — FLMLNK('GETBLDMP', sclm_id — ,group — ,type — ,member — ,bmap_table →
                               |
                               | dd_msgs
                               |
➤ ————— ,msg_array); ➤

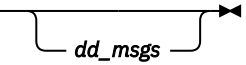
```

### 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

►► FLMCMD — GETXDEP, *project* — , — *prj\_def* — , — *group* — , — *type* — , — *member* — , —  
 ► — *xdep\_table* — , — *scope*, —  ►

### Call invocation format

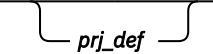
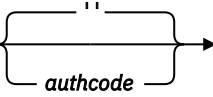
►► Lastrc — := — FLMLNK('GETXDEP', *sclm\_id* — , — *group* — , — *type* — , — *member* — , —  
 ► — *xdep\_table* — , — *scope*, — \$msg\_array); ►►

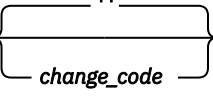
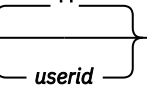
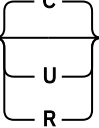

### Return codes

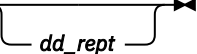
- 4**  
The parent chain was truncated when the maximum nesting level was exceeded, or a circular reference was detected. ZSFLIMIT is non-blank on truncated rows.
- 8**  
No parent data was found.
- 12**  
Cross-dependency database is not active.
- 16**  
Error updating ISPF table.
- 20**  
Error reading the Cross-dependency database.

## IMPORT—import SCLM accounting information to current project

### Command invocation format

►► FLMCMD — IMPORT, *project* — , —  , *group* — , —  ►

► , —  , —  , —  , —  ►

► , —  ►

## Call invocation format

```

➤ lastrc := FLMLNK('IMPORTbb' ,sclm_id ,group ,
                                     authcode
                                     ,
                                     change_code ,
                                     userid ,
                                     C
                                     U
                                     R
                                     ,dd_msgs ,dd_rept); ➤

```

## Return codes

- 0** Normal completion.
- 4** Warning condition.
- 8** Error condition.
- 12** Severe error condition. SCLM does not produce messages because there was an error invoking the IMPORT module.
- 16** Severe error condition. SCLM does not produce messages because it was unable to retrieve SCLM ID information.
- 20** Severe error condition. SCLM does not produced messages because the SCLM ID is invalid.
- 24** Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32** Severe error condition. SCLM does not produce messages for one of 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

```

➤ lastrc := FLMLNK('INITbbbb', 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 — , — prj_def — , group — , type — , member — ➤
      , — authcode — , — access_key — , — userid — ➤

```

### Call invocation format

```

➤ lastrc — := — FLMLNK('LOCKbbbb' — , sclm_id — , group — , type — , member — ➤
      , — authcode — , — access_key — , — userid — , found_group — ➤
      'b' — 'b' — 'b' —
      , max_prom_group — , sacct_info — , list_info — , msg_array); ➤

```

## Return codes

- 0**  
Normal completion.
- 8**  
Error condition.
- 20**  
Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24**  
Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32**  
Severe error condition. Messages are not produced. One of 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**

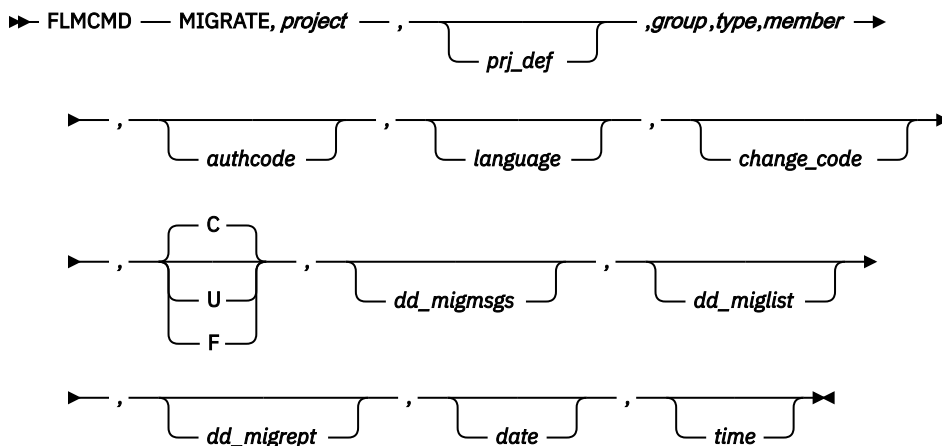
Severe error condition. An invalid service was requested.

**36**

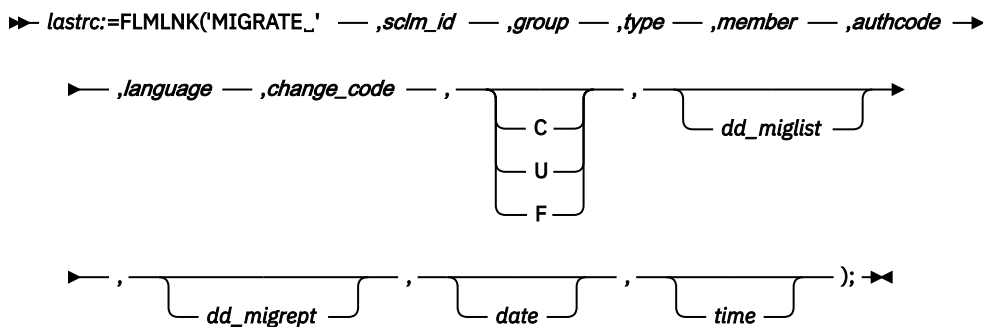
Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## MIGRATE—create accounting information for selected members

### Command invocation format



### Call invocation format



### 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

```
➤ FLMCMD — NEXTGRP, project — , — prj_def — , group — , — dd_msgs — ➤
```

### Call invocation format

```
➤ lastrc — := — FLMLNK('NEXTGRP_', sclm_id — , group — , dd_msgs); ➤
```

### Return codes

0

Normal completion. NEXTGRP completed successfully. Variables are set.

4

Warning condition. The group is already the top group. No variables are set.

8

Error condition. Invalid project, *prj\_def*, or group name.

12

Severe error condition. SCLM might not produce messages because there was an error invoking the NEXTGRP module. For certain conditions messages are available.

20

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

24

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

32

Severe error condition. Messages are not produced. One of 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

```
➤ lastrc — := — FLMLNK('PARSEbbb' — sclm_id — , group — , type — , member — , language — ➤
```

```
➤ , — Y — , ddname — , $stats_info — , $list_info — , $msg_array); ➤
```

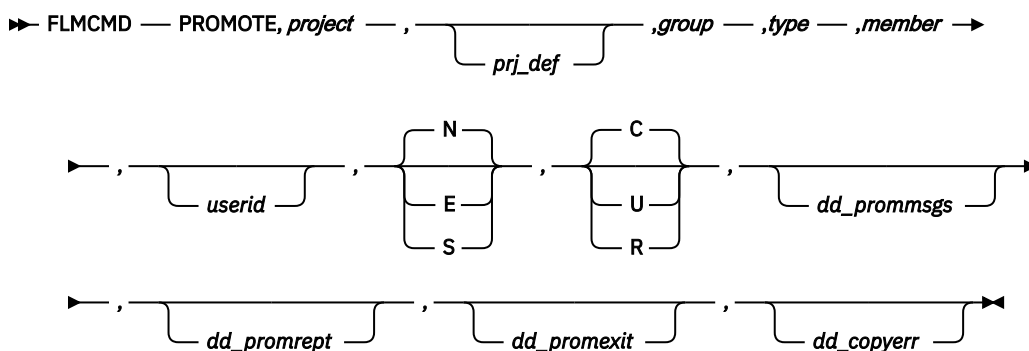
N

## Return codes

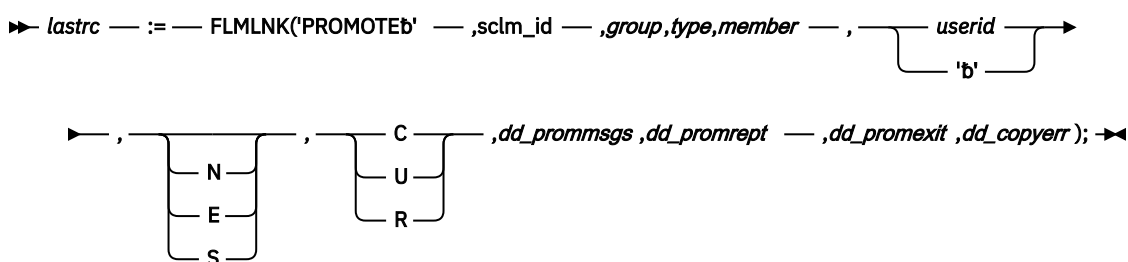
- 0**  
Normal completion.
- 4**  
Warning condition. A parser error occurred.
- 8**  
Error condition.
- 20**  
Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24**  
Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32**  
Severe error condition. Messages are not produced. One of 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



### Call invocation format

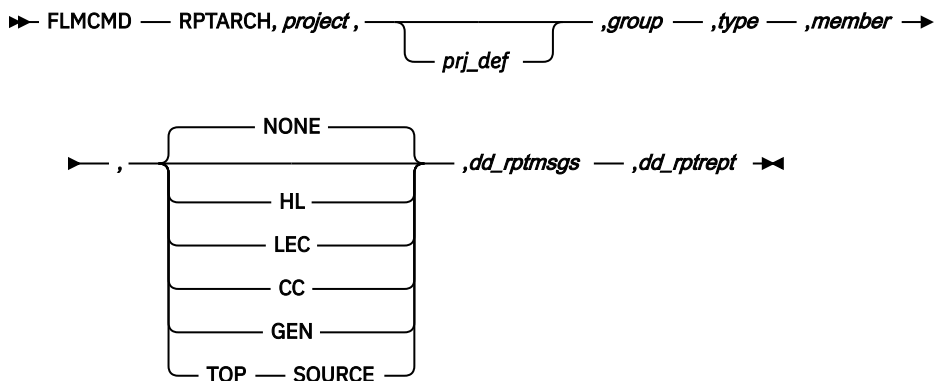


## Return codes

- 0** Normal completion.
- 4** Warning condition.
- 8** Error condition.
- 12** Severe error condition. Messages are not produced. Error invoking the Promote module.
- 16** Severe error condition. Messages are not produced. Unable to retrieve SCLM ID information.
- 20** Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24** Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32** Severe error condition. Messages are not produced. One of 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.

## RPTARCH—generate an SCLM architecture report

### Command invocation format



### Call invocation format

You cannot use call procedures to start this service.

## Return codes

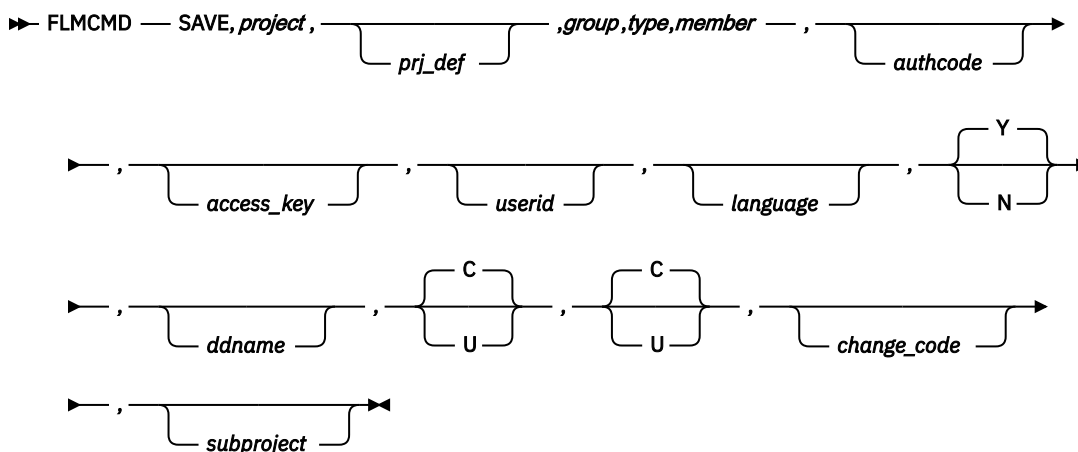
- 0** Normal completion.

## SAVE service

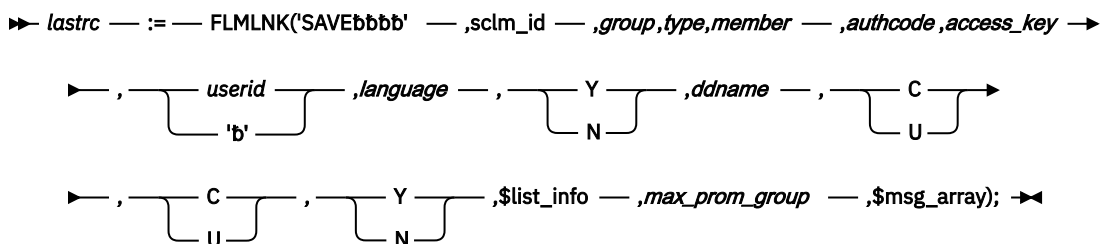
- 4  
Warning condition.
- 8  
Error condition.
- 16  
Error condition. Unable to retrieve the SCLM table.

## SAVE—lock, parse, and store a member

### Command invocation format



### Call invocation format



### 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

►► FLMCMD — SCLMINFO, *project* — , —  ►

### Call invocation format

►► *lastrc* — := — FLMLNK('SCLMINFO', *sclm\_id*); ►◄

### Return codes

**0**

Normal completion.

**12**

Error condition.

## START—generate an application ID for a service session

### Command invocation format

You cannot use command procedures to call this service.

### Call invocation format

►► *lastrc* — := — FLMLNK('STARTbbb', *appl\_id*); ►◄

### Return codes

**0**

Normal completion.

**12**

Severe error condition. The maximum application ID limit was exceeded.

**16**

Severe error condition. An invalid version of the SCLM table was loaded.

**20**

Severe error condition. An invalid version of the multicultural support table was loaded.

**24**

Severe error condition. Unable to load the SCLM table.

**28**

Severe error condition. Unable to load the multicultural support table or the SCLM I/O load module.

**32**

Severe error condition. Messages are not produced. One of these is true:

## STORE service

- You requested an invalid service.
- You supplied an invalid parameter list for the requested service.
- The version of the FLMLNK subroutine does not match the version of the SCLM services module.

**34**

Severe error condition. An invalid service was requested.

**36**

Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## STORE—store member information in an accounting record

### Command invocation format

You cannot use command procedures to call this service.

### Call invocation format

```
► lastrc — := — FLMLNK('STOREbbb' — sclm_id — ,group,type,member — ,access_key →  
  
    ► ,language — , — userid — , — C — , — Y — ,$stats_info,$list_info →  
        'b' — U — N —  
  
    ► ,$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.

## UNLOCK—unlock a member in a development library

### Command invocation format

```

▶▶ FLMCMD — UNLOCK, project — , — prj_def — , group — , type — , member →

▶ — , — access_key — ▶▶

```

### Call invocation format

```

▶▶ lastrc — := — FLMLNK('UNLOCK' — , sclm_id — , group — , type — , member →

▶ — , — access_key — , msg_array — ); ▶▶

```

### Return codes

- 0**  
Normal completion.
- 4**  
Warning condition.
- 8**  
Error condition.
- 20**  
Severe error condition. Messages are not produced. Invalid SCLM ID.
- 24**  
Severe error condition. Messages are not produced. SCLM services have not been initialized.
- 32**  
Severe error condition. Messages are not produced. One of 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

```

▶▶ FLMCMD — VERDEL, project — , — prj_def — , group — , type — , member — , date →

▶ — , time — , — dd_msgs — , — longdate — ▶▶

```

## Call invocation format

```

▶▶ lastrc — := — FLMLNK('VERDEL — ',sclm_id , — ,group — ,type — ,member — ,date — ,time →
    ◀ — ,msg_array — , — ) ; ▶▶
                        └── longdate ─┘

```

## Return codes

- 0** Normal completion. The audit and version information were deleted.
- 8** Error completion. No audit and version information was deleted. No audit record was found that matches the specified criteria.
- 12** Error completion. Refer to the messages for more information.
- 20** Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24** Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32** Severe error condition. An invalid parameter list was passed to the requested service.
- 34** Severe error condition. An invalid service was requested.
- 36** Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## VERHIST—Retrieve Versioned Member Information

### Command invocation format

```

▶▶ FLMCMD — VERHIST, project — , — ,group — ,type — ,member — ,date →
                        └── prj_def ─┘
    ◀ — ,time — ,dd_report — , — , — ) ; ▶▶
                        └── Y ─┘   └── dd_msgs ─┘   └── longdate ─┘
                        └── N ─┘

```

### Call invocation format

```

▶▶ lastrc — := — FLMLNK('VERHIST_' — ,sclm_id , — ,group — ,type — ,member — ,date — ,time →
    ◀ — ,dd_report — , — ,msg_array — — ) ; ▶▶
                        └── Y ─┘   └── longdate ─┘
                        └── N ─┘

```



## Return codes

Additional special services messages are written to the FLMSGSGS 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:

**O**

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

```

graph LR
    FLMC[FLMCMD] --> VERINFO[VERINFO]
    VERINFO --> project[project]
    project --> prj_def[prj_def]
    prj_def --> group[group]
    group --> type[type]
    type --> member[member]
    member --> date[date]
    date --> time[time]
    time --> user_info_table[user_info_table]
    user_info_table --> include_table[include_table]
    include_table --> change_code_table[change_code_table]
    change_code_table --> ada_cu_table[ada_cu_table]
    ada_cu_table --> FORWARD[FORWARD]
    FORWARD --> BACKWARD[BACKWARD]
    BACKWARD --> MATCH[MATCH]
    MATCH --> dd_msgs[dd_msgs]
    dd_msgs --> longdate[longdate]
    longdate --> End(( ))
  
```

## Call invocation format

```

▶▶ lastrc := FLMLNK('VERINFO_' — ,sclm_id, — ,group — ,type — ,member — ,date — ,time →
    ,user_info_table — ,include_table — ,change_code_table — ,ada_cu_table →
    , { FORWARD
      { BACKWARD
      { MATCH
    , $msg_array — , { longdate } ); ▶▶

```

## Return codes

**O**

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

**8**

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

- If FORWARD was specified then there are no audit records for the group which match or follow the specified type, member, date and time.
- If BACKWARD was specified then there are no audit records for the group which match or precede the specified type, member, date and time.
- If MATCH was specified then there is not an audit record with the specified group, type and member name.

**12**

Error completion. Refer to the messages for more information.

**20**

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

**24**

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

**32**

Severe error condition. An invalid parameter list was passed to the requested service.

**34**

Severe error condition. An invalid service was requested.


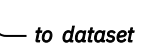
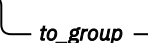

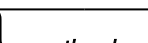
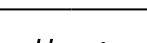
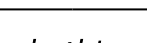
**36**

Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## VERRECOV—recover a version

### Command invocation format

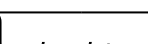
```

➤ FLMCMD — VERRECOV, project — ,  ,group — ,type — ,member — ,date →
                                     prj_def
➤ ,time — ,  ,  ,  →
                                     to_dataset to_group to_type
➤ ,  ,  ,  ➤
                                     authcode dd_msgs longdate

```

### Call invocation format

```

➤ lastrc — := — FLMLNK('VERRECOV', sclm_id , — ,group — ,type — ,member — ,date — ,time →
                                     to_dataset — ,to_group — ,to_type — ,authcode — ,$msg_array →
➤ ,  ); ➤
                                     longdate

```

### Return codes

**0**

Normal completion. The audit and version information were recovered.

- 8** Error completion. No audit and version information was recovered. No audit record was found that matches the specified criteria.
- 10** Error completion. No audit and version information was recovered. The member could not be locked with the specified authorization code.
- 12** Error completion. Refer to the messages for more information.
- 20** Severe error condition. SCLM does not produce messages because the SCLM ID is invalid.
- 24** Severe error condition. SCLM does not produce messages because SCLM services have not been initialized.
- 32** Severe error condition. An invalid parameter list was passed to the requested service.
- 34** Severe error condition. An invalid service was requested.
- 36** Severe error condition. The version of the FLMLNK subroutine does not match the version of the SCLM services module.

## XDEPUPDT—Update Cross-dependency Information

### Command invocation format

►► FLMCMD — XDEPUPDT, *project*, — *prj\_def* — , — *group* \* — , — *dd\_xdeprept* — ►►

### Call invocation format

►► Lastrc — := — FLMLNK('XDEPUPDT' — , — *sclm\_id* — \* — , — \$msg\_array); ►►

## SCLM macros

### FLMABEG—define the project name of the project definition

#### Macro format

►► *name* — FLMABEG — ►►

LOC= — BELOW —

ABOVE —

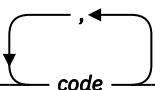
### FLMAEND—last macro in the project definition

#### Macro format

►► FLMAEND ►►

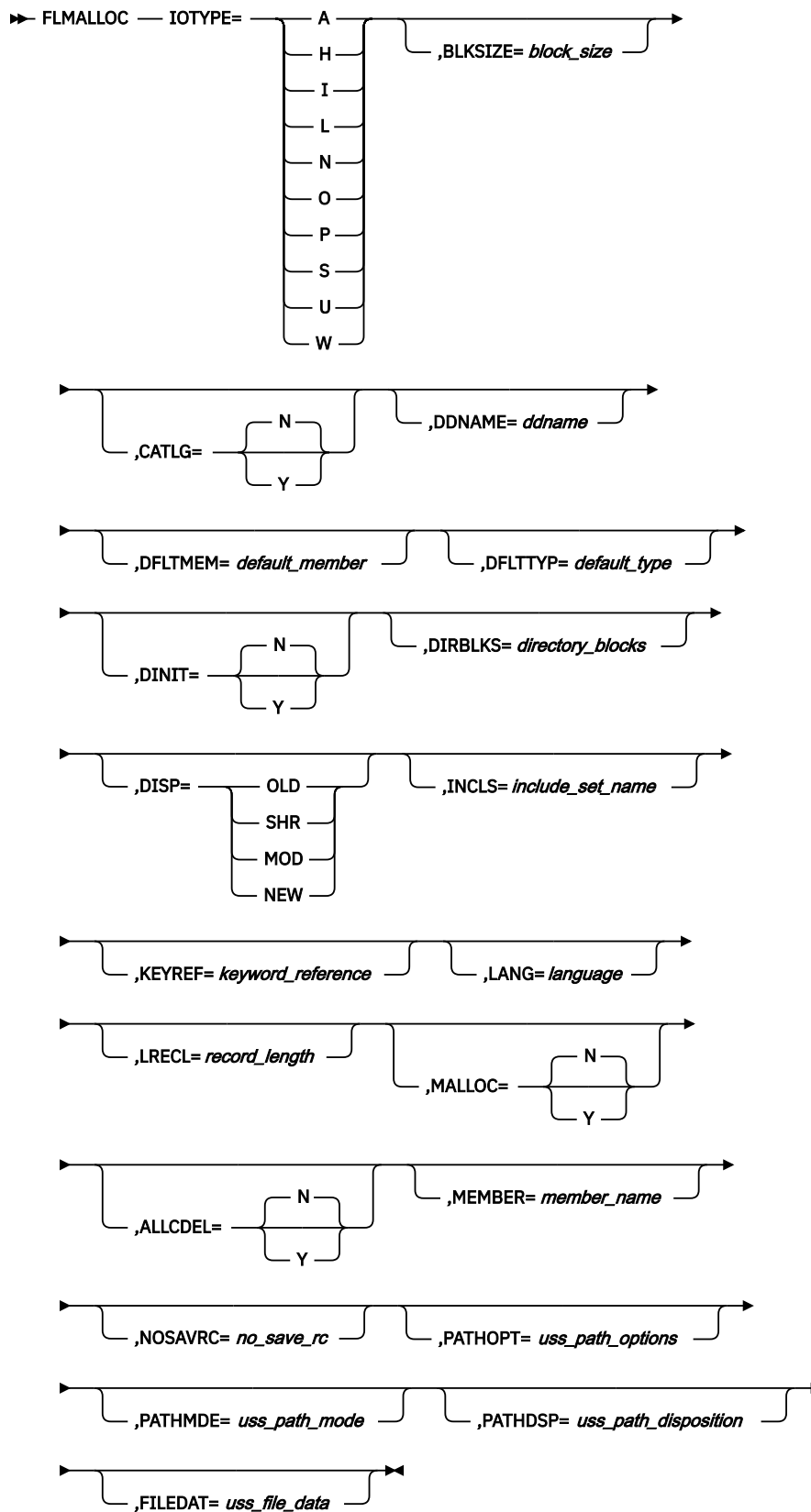
## FLMAGRP—define a group of authorization codes

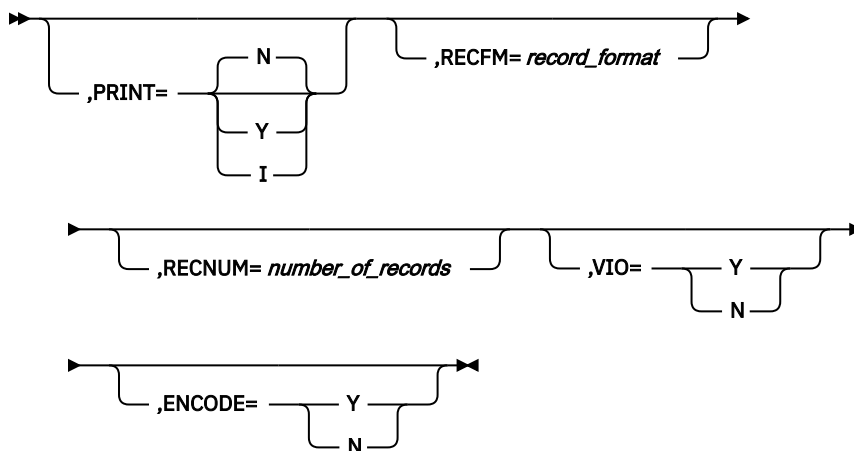
### Macro format

► *name* — FLMAGRP — AC=(  *code* ) ◄

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

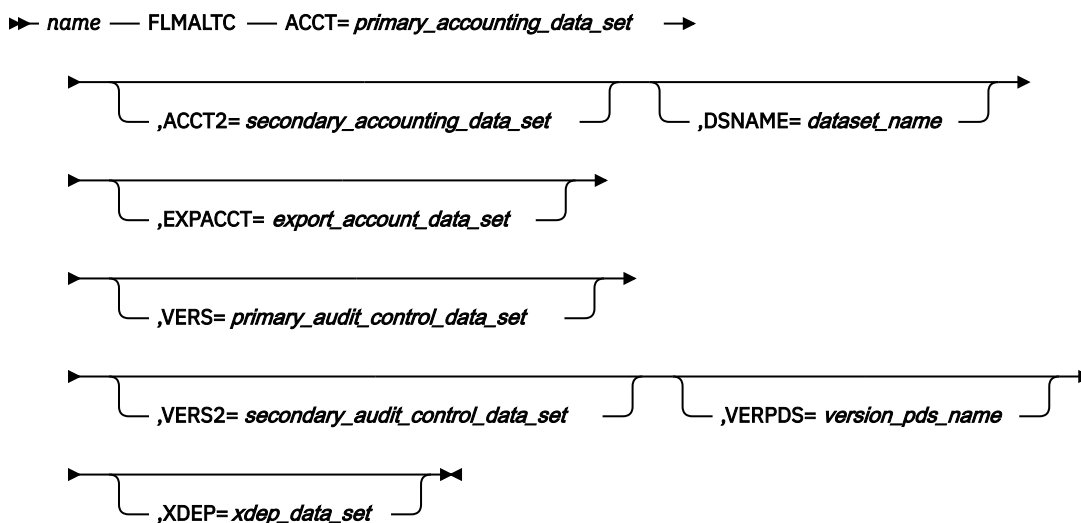
### Macro format





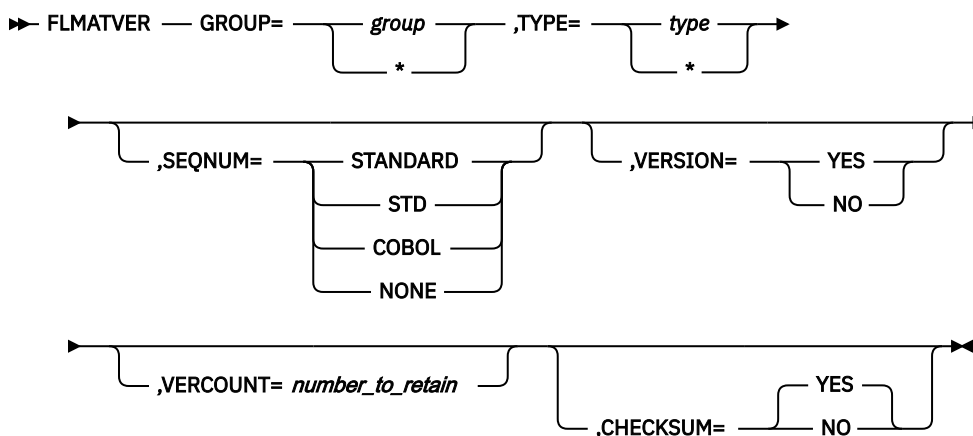
## FLMALTC—specify alternate control information

### Macro format



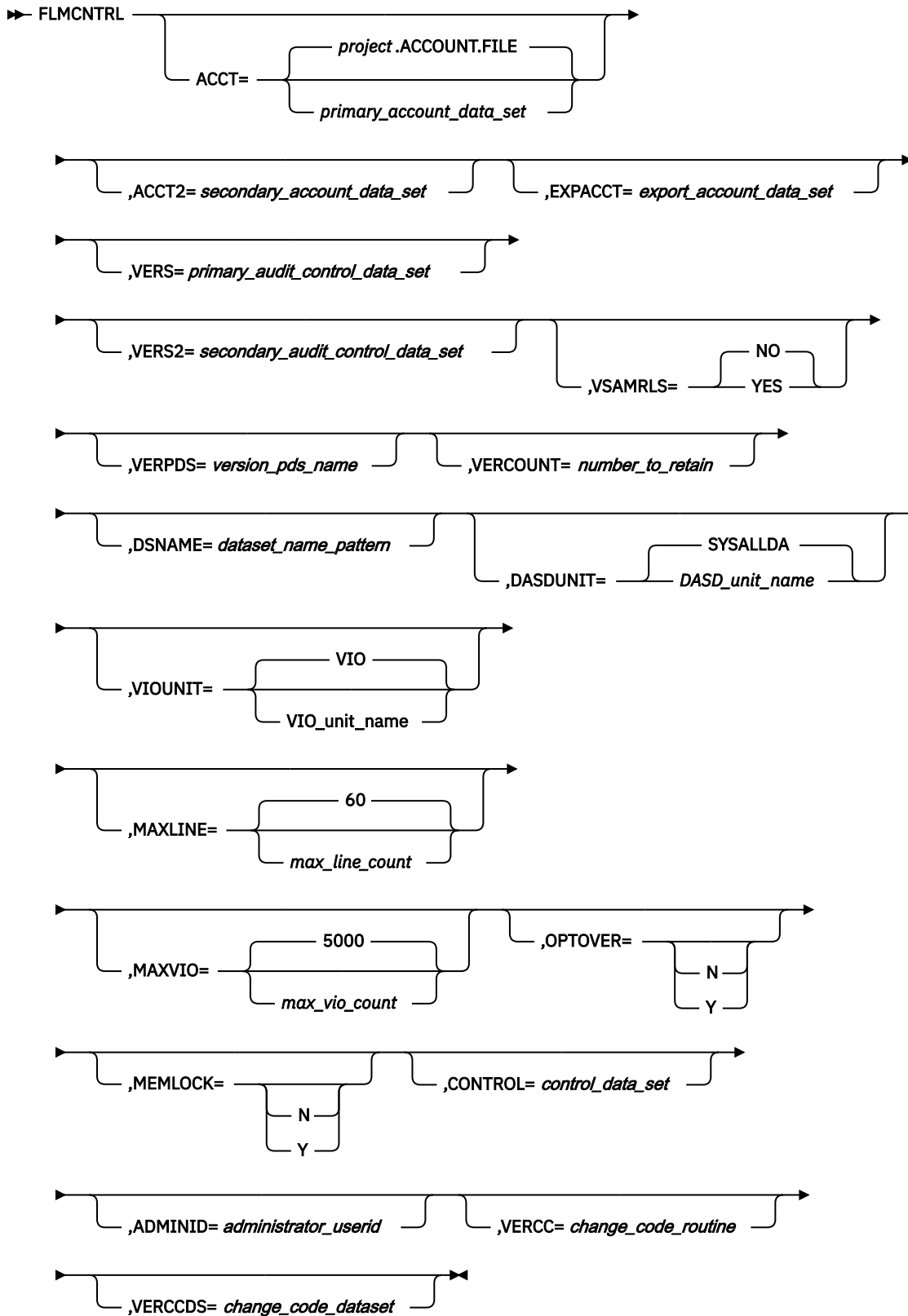
## FLMATVER—enable the audit and version utility

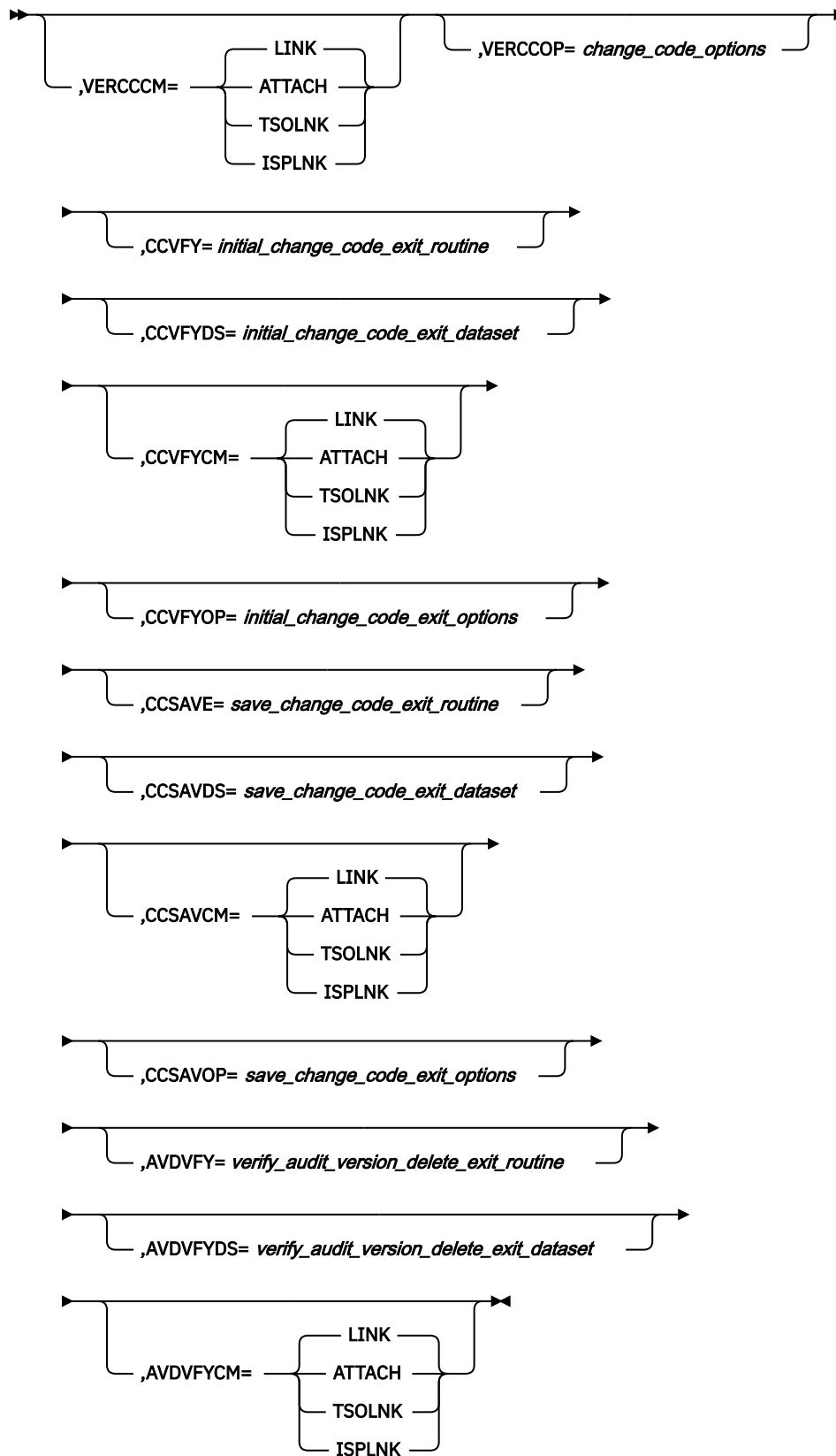
### Macro format



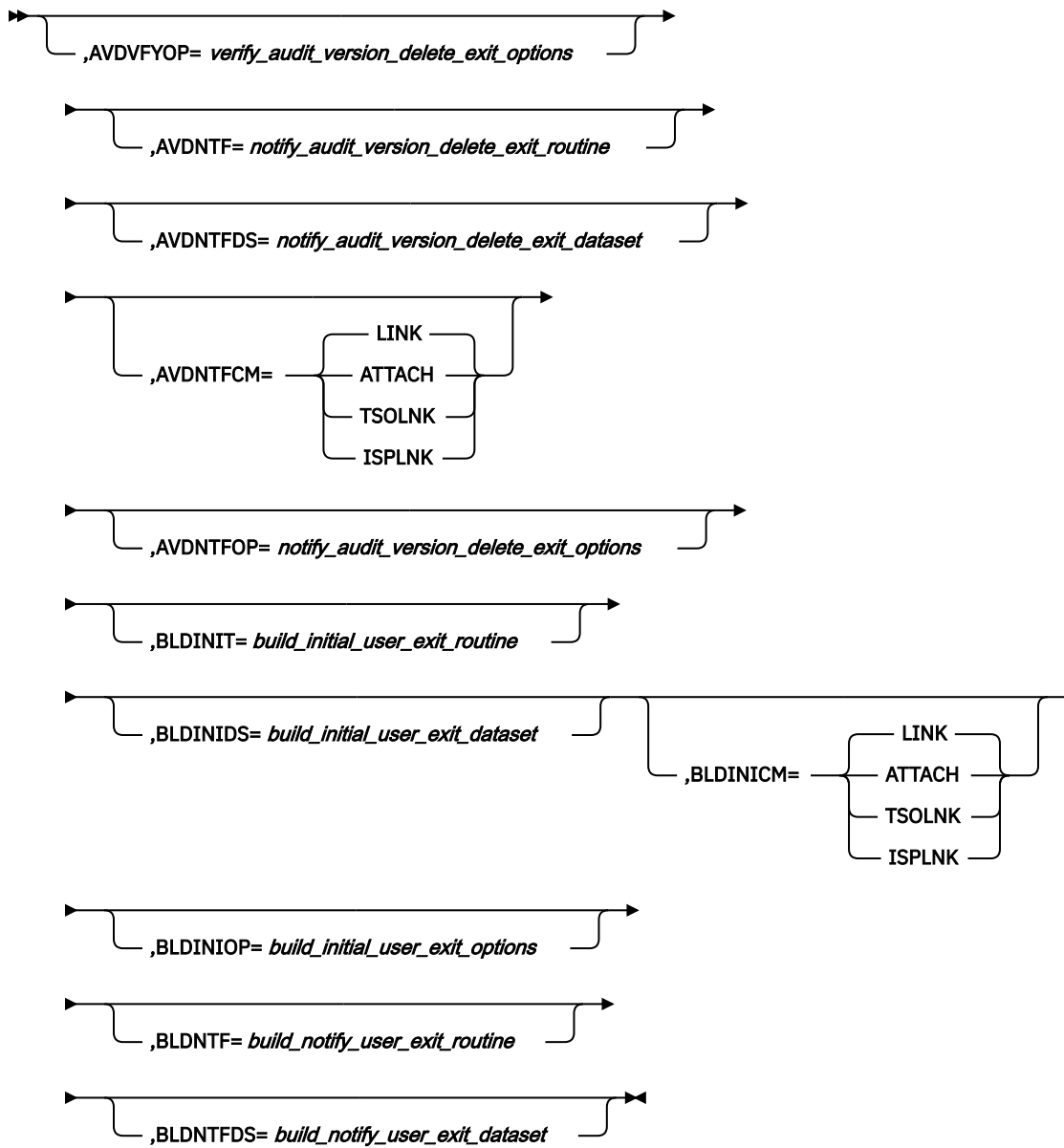
## FLMCNTRL—specify project-specific control options

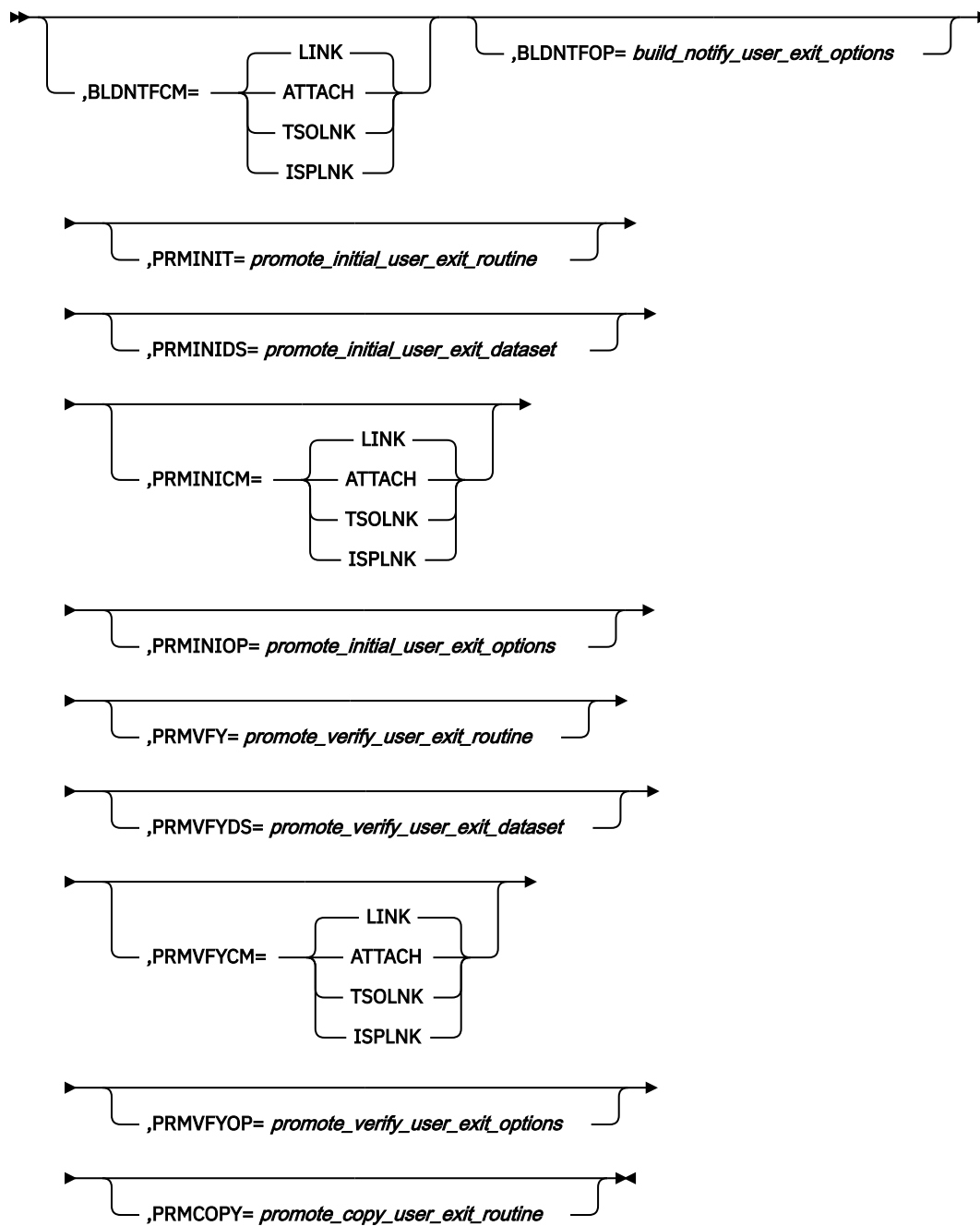
### Macro format

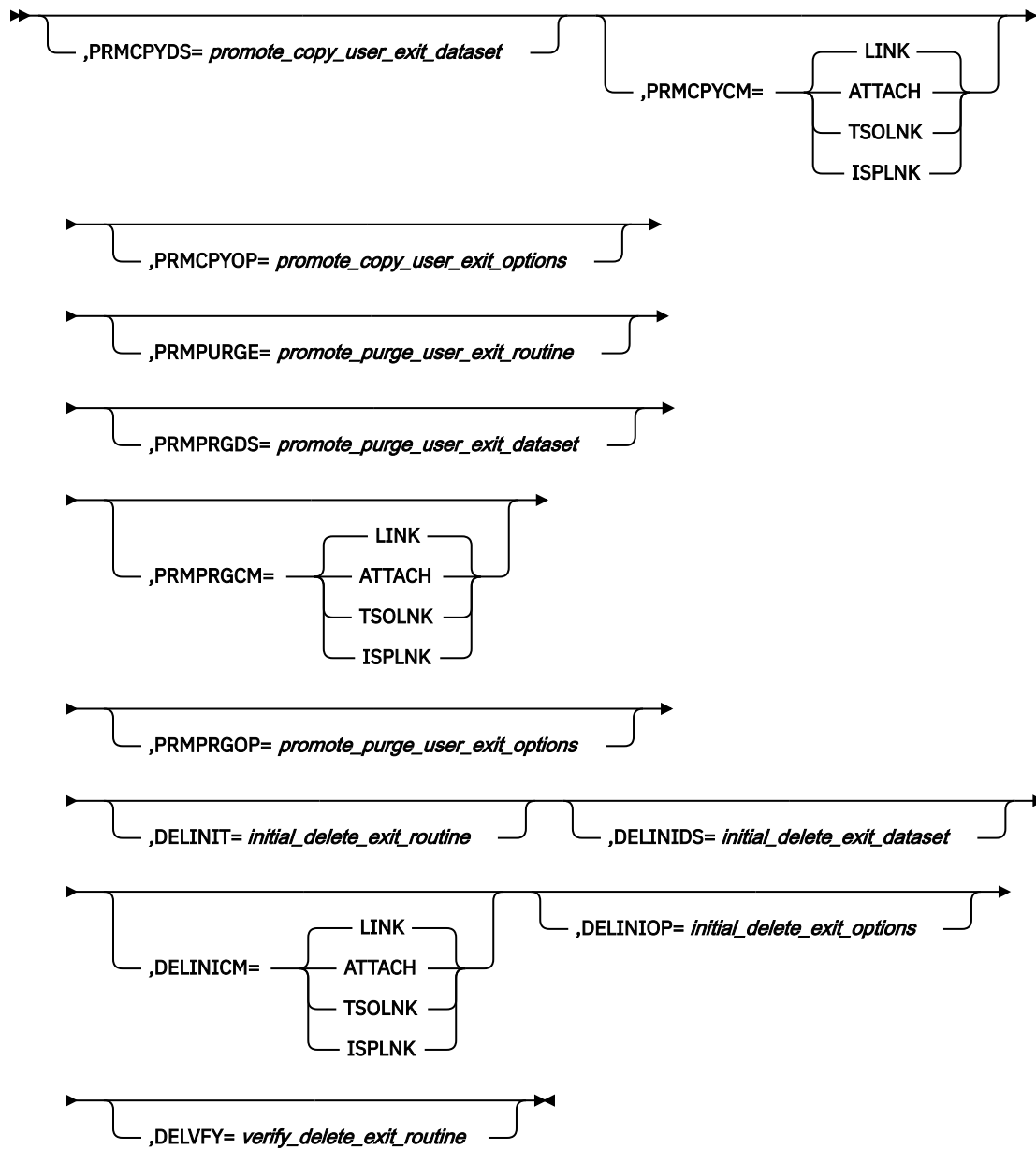


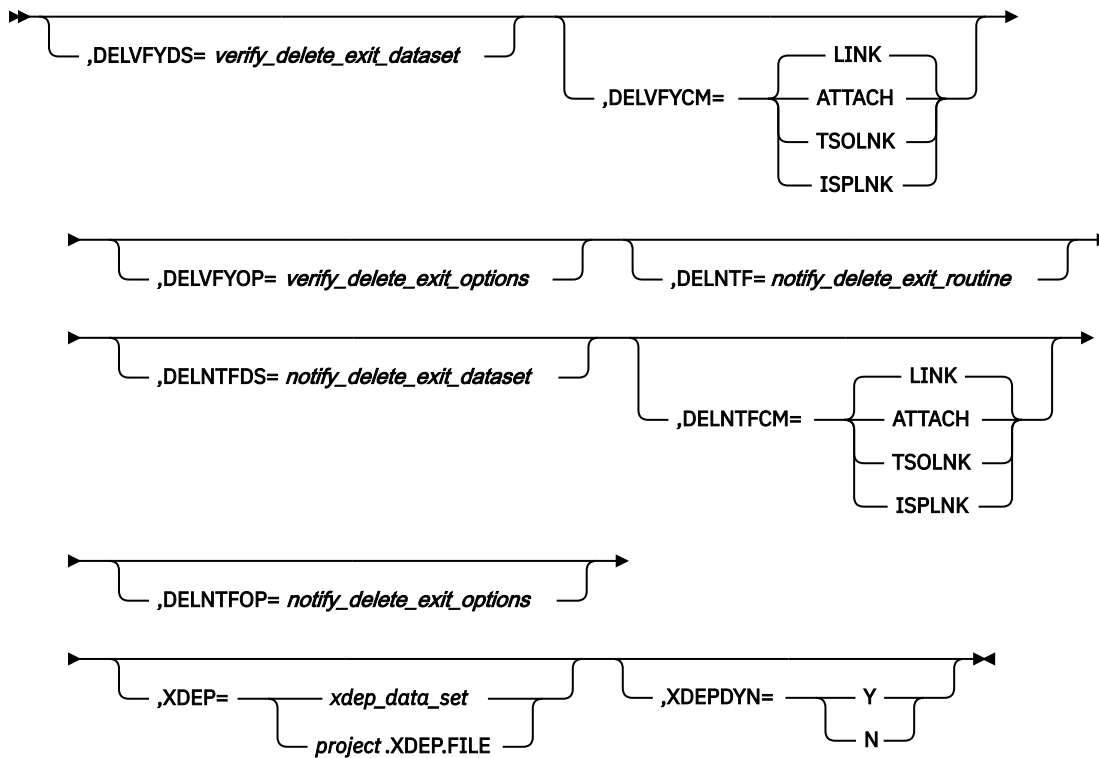






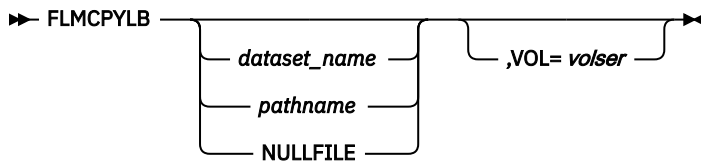






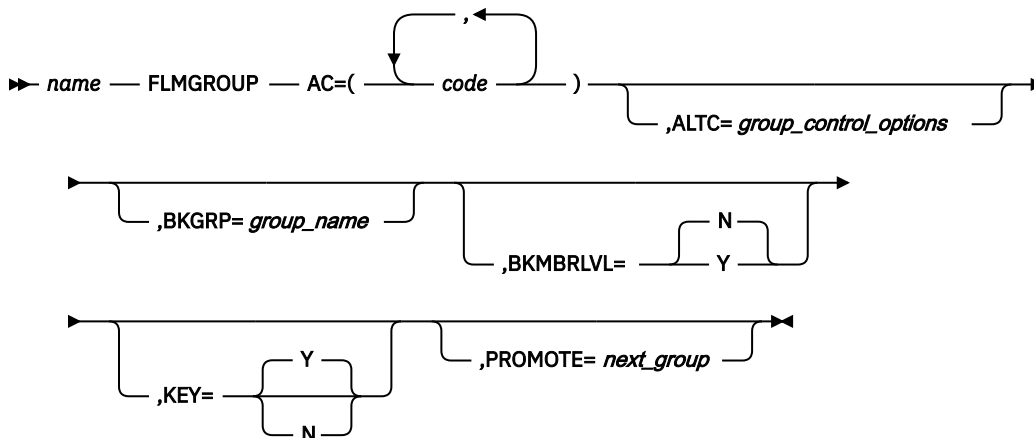
## FLMCPYLB—identify additional data sets to be concatenated to a DDname

### Macro format



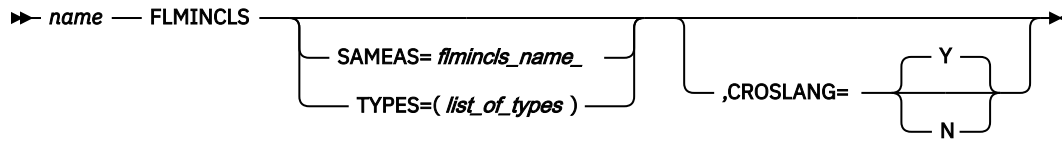
## FLMGROUP—define one group in the project definition

### Macro format



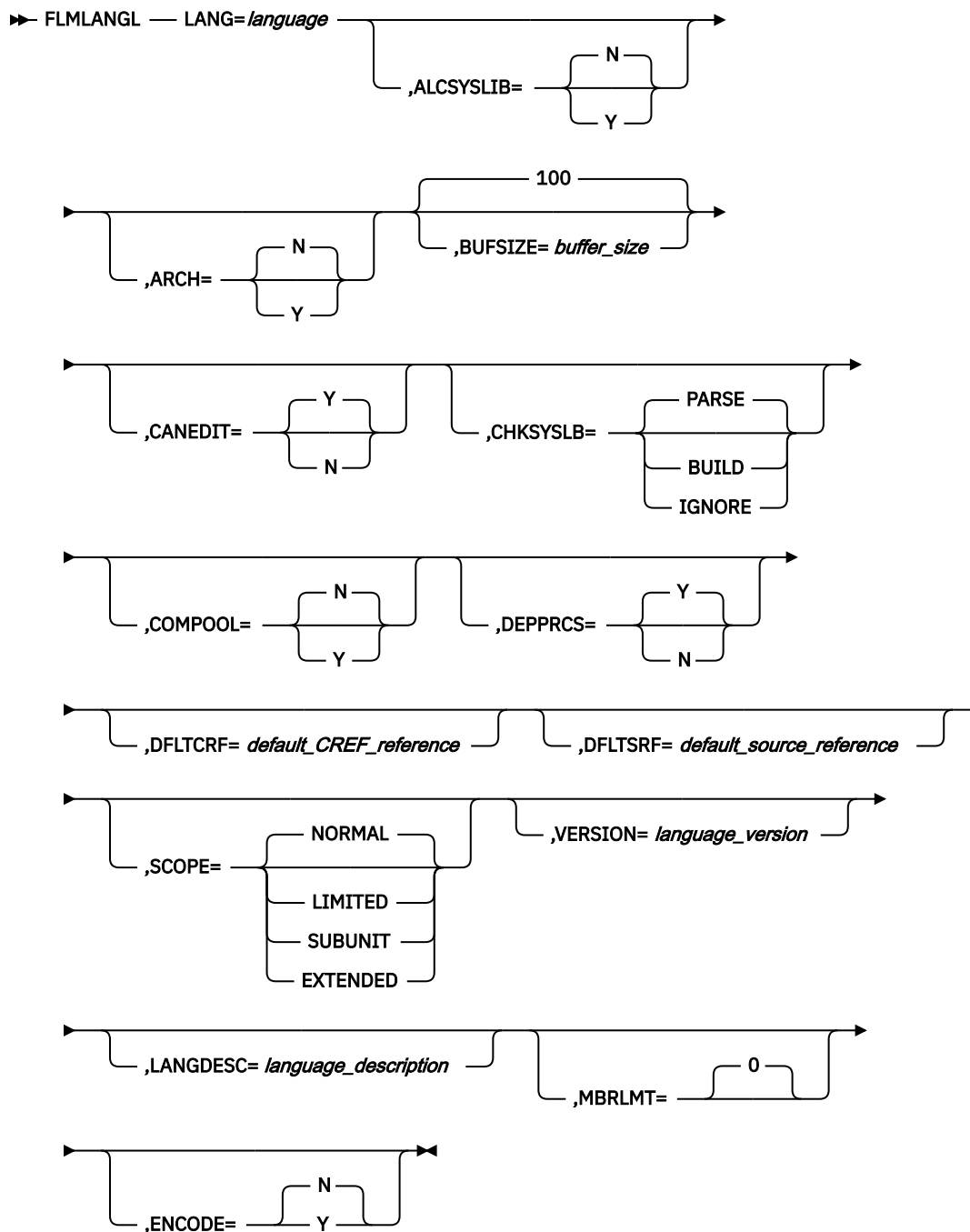
## FLMINCLS—associate include-sets with types in the project hierarchy

### Macro format



## FLMLANGL—define a language to SCLM

### Macro format



**FLMLRBLD—rebuild members with a particular language after promotion****Macro format**

►► FLMLRBLD —————►  
                     GROUP= *group\_list*

**FLMPROJ—define a subproject to an SCLM project/alternate****Macro format**

►► *name* — FLMPROJ —————►  
                                     *subproj\_desc*

**FLMNPROM—specify which SCLM editable elements may or may not be marked as non-promotable****Macro format**

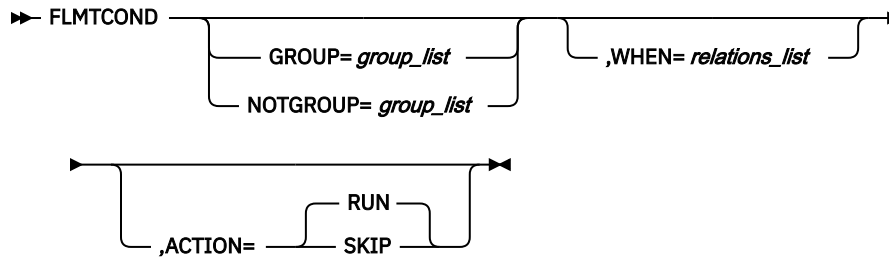
►► FLMNPROM — GROUP= ( *group* ) , —►  
                                     \*  
  
     ► TYPE= ( *type* ) , — LANG= ( *lang* ) —►  
                                     \*                                      \*  
  
     ► , — NPROM= YES —►  
                                     NO

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

►► ————— FLMSYSLB — *dataset\_name* —————►  
                     *language*                                      ,INCLS= *include\_set\_name*  
  
     ► —————►  
                     ,VOL= *volser*

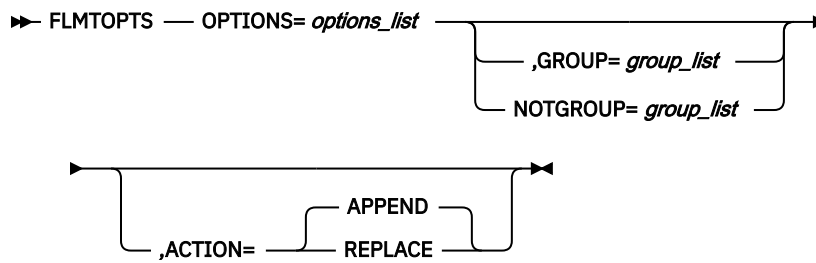
## FLMTCOND—select build translators based on group and return codes

### Macro format



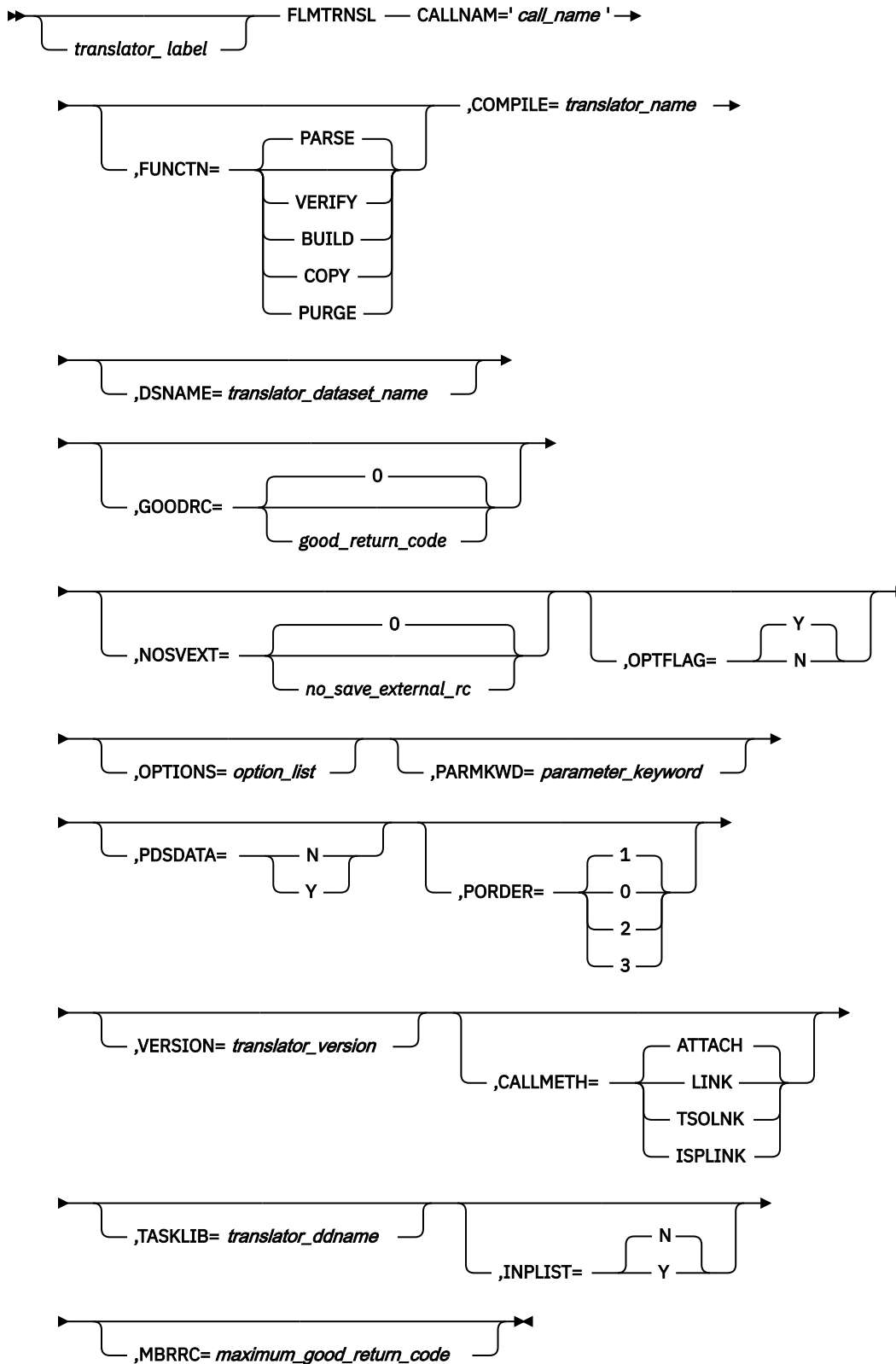
## FLMTOPTS—select the options based on group

### Macro format



## FLMTRNSL—define once for each translator to be invoked for a language

### Macro format

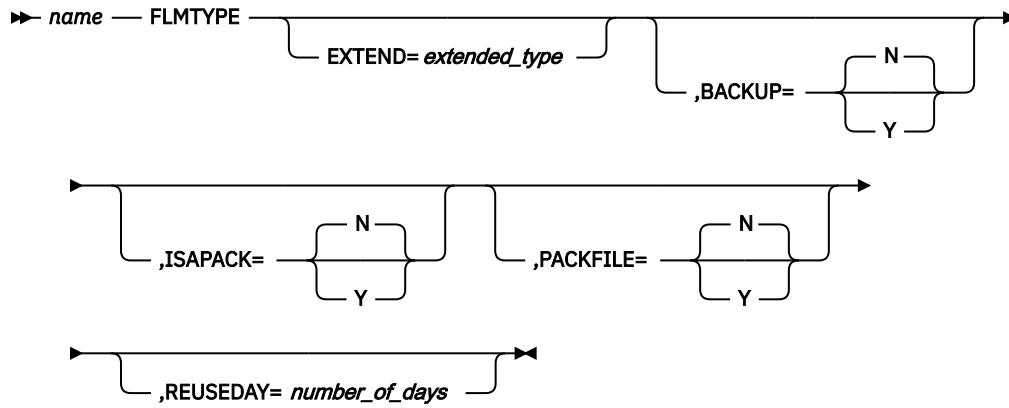


**Note:** See the "SCLM Reference" section in the *z/OS ISPF Software Configuration and Library Manager Guide and Reference* for information about the two translators FLMTPRE and FLMTPST.



## FLMTYPE—define one FLMTYPE in the project definition

### Macro format





## 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 6. System variables: Configuration utility				
Name	Pool	Type	Len	Description
ZCFGCPD	shr	non	10	Current Configuration module compilation date. ZCFGCPD 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.
ZFGCMPT	shr	non	5	Current Configuration module compilation time. ZFGCMPT 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.  <b>Note:</b> This field will be blank for a configuration module compiled with a previous version of ISPF.

Table 6. System variables: Configuration utility (continued)				
Name	Pool	Type	Len	Description
ZCFGKSRC	shr	non	54	Keyword source data set and member for the current configuration module.  <b>Note:</b> This field will be blank for a configuration module compiled with a previous version of ISPF.
ZCFGLVL	shr	non	8	Current Configuration module level.
ZCFGMOD	shr	non	8	Current Configuration module name.

## Time and date

Table 7. System variables: Time and date				
Name	Pool	Type	Len	Description
ZDATE	shr	non	8	Current date. The format of ZDATE depends on the current national language (see ZDATEF and ZDATEFD).
ZDATEF	shr	non	8	Current national language date format using the characters DD for day, MM for month, and YY for year. ZDATEF contains the national language delimiter. For example, DD/MM/YY, YY/MM/DD, MM.DD.YY. For countries that use a delimiter other than a slash (/), that delimiter replaces the slash in the date representation.
ZDATEFD	shr	non	8	The date format as described under ZDATEF but with the national language convention instead of DD, MM, and YY.
ZDATESTD	shr	non	8	Current date with a 4-digit year (YYYY/MM/DD). The format of ZDATESTD depends on the current national language (see ZDATEF and ZDATEFD).
ZDAYOFWK	shr	non	8	The name of the day of the week.
ZDAY	shr	non	2	Day of month (2 characters)
ZJDATE	shr	non	6	Day-of-year date (format yy.ddd)
ZJ4DATE	shr	non	8	Day-of-year date (format yyyy.ddd)
ZMONTH	shr	non	2	Month of year (2 characters)
ZSTDYEAR	shr	non	4	All 4 digits of the current year (4 characters).
ZTIME	shr	non	5	Time of day (format hh:mm)
ZTIMEL	shr	non		Time of day (format hh:mm:ss:TQ —where <i>T</i> is tenths of a second, and <i>Q</i> is hundredths)
ZYEAR	shr	non	2	Year (2 characters)

The current date is displayed in the appropriate format for the session language, where DD=DAY, MM=MONTH, and YY=YEAR. For countries that use a delimiter other than a slash (/), that delimiter replaces the slash in the date representation.

## General

Table 8. General variables				
Name	Pool	Type	Len	Description
Z	shr	non	0	Null Variable
ZACCTNUM	shr	non	40	The MVS account number specified at logon time.
ZAPLCNT	shr	non	4	Number of times APL invoked for a logical screen
ZAPPLID	shr	non	8	Application identifier
ZAPPTTL	any	in	N/A	Variable ZAPPTTL is no longer used by ISPF. If a dialog sets this variable, the value has no effect on ISPF processing.
ZBDMAX	shr	i/o	9	Maximum number of displays that can occur within a batch mode session. This value is obtained from the BDISPMAX keyword on the ISPSTART command.
ZBDMXCNT	shr	non	9	Count of current number of displays in a batch mode session
ZCLIENT	shr	non	4	If ISPF is communicating with a client using the JSON API, ZCLIENT will be set to a value of JSON.
ZCS	shr	non	5	Multicultural support currency symbol
ZCSDLL	shr	non	8	Variable ZCSDLL is no longer used and is set to blanks.
ZDECS	shr	non	1	Multicultural support decimal separator character
ZDEL	prof	non	1	The delimiter is used to separate stacked commands. The default delimiter is a semicolon (;).
ZEDLMSG	shr	in	79	Available for an edit macro to set the long message for the next display.
ZEDSMSG	shr	in	24	Available for an edit macro to set the short message for the next display.
ZENTKTX	any	in	12	Variable ZENTKTX is no longer used by ISPF. If a dialog sets this variable, the value has no effect on ISPF processing.
ZENVIR	shr	non	32	<p>Environment description:</p> <ul style="list-style-type: none"> <li>Characters 1 to 8 contain the product name and sequence number, in the form ISPF x.y. The sequence number x.y has this meaning: <ul style="list-style-type: none"> <li>7.5 means ISPF for z/OS Version 2 Release 5.0</li> <li>7.4 means ISPF for z/OS Version 2 Release 4.0</li> <li>7.3 means ISPF for z/OS Version 2 Release 3.0</li> <li>7.2 means ISPF for z/OS Version 2 Release 2.0</li> <li>7.1 means ISPF for z/OS Version 2 Release 1.0</li> </ul> </li> <li><b>Note:</b> See also the system variables ZISPFOS and ZOS390RL.</li> <li>Characters 9 to 16 contain the generic operating system name (MVS).</li> <li>Characters 17 to 24 contain the operating system environment (TSO or BATCH).</li> <li>Characters 25 to 32 contain blanks and are reserved.</li> </ul>
ZEURO	shr	non	1	The EURO currency symbol.
ZGUI	shr	non	68	On a client that is using the JSON API, ZGUI is set to the value CLIENT. Otherwise, ZGUI is set to blanks.

Table 8. General variables (continued)

Name	Pool	Type	Len	Description
ZINICMD	shr	in	1	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.
ZISPFOS	shr	non	30	The level of ISPF code that is running as part of z/OS on your system. This level might or might not match the z/OS level found in ZOS390RL.
ZISPFRC	shr	in	8	Return code from ISPSTART-selected dialog to invoking application.
ZKEYHELP	any	in	8	Keys help panel identifier. If a keys help panel is not specified on the referenced keylist, the application can provide the keys help panel name in this variable. If the help panel name is present as part of the referenced keylist definition, it takes precedence over the ZKEYHELP value. This system variable must be redefined each time the keys help panel is to change.
ZLANG	prof	non	8	Session language
ZLOGO	shr	non	3	Indicates whether the user has requested bypass of LOGO panel. NO indicates that the user has specified the NOLOGO keyword at the time ISPF was called, thus, requesting that the LOGO panel be bypassed. Otherwise, the value of the variable will be YES.
ZLOGON	shr	non	8	Stepname of TSO logon procedure
ZNESTMAC	any	in	2	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.
ZMLPS	shr	non	3	Indicates whether the ISPF Profile Sharing feature is active. ZMLPS has a value of either YES or NO.
ZOS390RL	shr	non	16	Indicates the z/OS release running on your system.
ZPANELID	shr	non	8	The name of the currently displayed panel.
ZPFKEY	shr	non	4	The name of the PF key (PFxx) in effect when the user exits the panel. If ZPFKEY = PF00 then no PF key is in effect.
ZPLACE	prof	i/o	7	Command line placement (ASIS or BOTTOM)
ZPREFIX	shr	non	8	TSO user prefix
ZPROFAPP	prof	in	8	Name of application profile pool extension table
ZSCLMLVL	shr	non	60	Environment description: <ul style="list-style-type: none"> <li>• Characters 1 to 9 contain "SCLM FOR ".</li> <li>• Characters 10 to 39 contain the value from ZISPFOS.</li> <li>• Characters 40 to 42 contain the value x.y from ZENVIR.</li> <li>• Characters 43 to 44 contain the SCLM function level.</li> <li>• Characters 45 to 51 contain the ISPF FMID.</li> <li>• Characters 52 to 60 contain blanks and are reserved.</li> </ul>
ZSCRCUR	shr	non	4	Displays the number of logical screens currently in use.
ZSCREENC	shr	non	5	Cursor position within the logical screen data.
ZSCREENI	shr	non	?	Logical screen data. Size depends upon your screen size.

Table 8. General variables (continued)				
Name	Pool	Type	Len	Description
ZSCRNAME	shr	in	8	Screen name set by dialog. The screen name is in effect only for the select level in which it was defined. Option 7.3 can alter ZSCRNAME, but this will have no impact.
ZSCRMAY	shr	non	4	Displays the number of logical screens allowed by the installation.
ZSCTPREF	shr	non	4	First site command table prefix
ZSCTPRE2	shr	non	4	Second site command table prefix
ZSCTPRE3	shr	non	4	Third site command table prefix
ZSCTSRCH	shr	non	1	Search order for site command tables relative to system command table. Set to either B (Before ISP) or A (After ISP).
ZSEQ	shr	non	5	Unique number within the sysplex.
ZSM	shr	i/o	3	Indicates whether session manager panels will be used for ISPF options 4 and 6. This variable is initialized from the ISPF configuration table keyword USE_SESSION_MANAGER at startup and stored in the shared variable pool. Once initialized it can only be changed with Option 0 - Settings or by use of the RESET_USE_SESSION_MANAGER configuration option.
ZSTART	prof	in	N/A	Default command stack variable.
ZSTARTPR	prof	non	1	<p>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:</p> <p><b>N</b> Processing of the commands in the initial command stack is completed.</p> <p><b>I</b> 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.</p> <p><b>Y</b> The commands in the initial command stack are currently being processed.</p> <p><b>S</b> No initial command stack was provided in a variable specified on the ISPF command.</p>
ZSYSICON	shr	non	8	The 8-character variable that contains the command to be executed when the system icon is double-clicked or <b>close</b> is selected.
ZSYSID	shr	non	8	The 8-character SYSNAME obtained from the SYS1.PARMLIB member IEASYSxx which is read at IPL time. NONAME is the default value of SYSNAME. The operator can change this value at IPL time. See the <a href="#">z/OS MVS Initialization and Tuning Reference</a> for more information.

Table 8. General variables (continued)

Name	Pool	Type	Len	Description
ZSYSNODE	shr	non	12	<p>The network node name of your installation's JES. This name identifies the local JES in a network of systems or system complexes being used for network job entry (NJE) tasks. The node name returned in ZSYSNODE derives from the NODE initialization statement of JES.</p> <p>If the system finds that the subsystem is not active, the ZSYSNODE variable contains the string -- INACTIVE -- (note the string delimiters).</p> <p>If the system finds that the subsystem is JES2 4.2 or earlier, or JES3 5.1.0 or earlier, the ZSYSNODE variable contains the string -- DOWNLEVEL -- (note the string delimiters).</p> <p>The value in ZSYSNODE remains the same throughout the ISPF session.</p> <p><b>Note:</b> If, for instance, the JES subsystem is taken down during an ISPF session and the node name is changed, the value in ZSYSNODE will still contain the value as determined at ISPF initialization.</p>
ZSYSPLEX	shr	non	8	The MVS sysplex name as found in the COUPLExx or LOADxx member of SYS1.PARMLIB. If no sysplex name is specified in SYS1.PARMLIB, ZSYSPLEX contains blanks.
ZSYSPROC	shr	non	8	TSO Logon Procedure name. In foreground, will have the name of the current logon procedure; in batch, will have the value 'INIT'; a Started Task will have the Started Task procedure name.
ZTEMPF	shr	non	44	Name of temporary data set for file tailoring output
ZTEMPN	shr	non	8	DDNAME of temporary data set for file tailoring output
ZTERMCID	shr	non	5	CCSID coded character set identifier of the terminal. Set by ISPF based on the code page and character set of the terminal. If the terminal code page and character set cannot be queried or if they are not supported by ISPF, this variable will be blank.
ZTERMCP	shr	non	4	<p>CECP support 4-digit code page.</p> <p><b>Note:</b> ZTERMCS is defined as character length 4. It cannot handle 5-character character sets. For example, the character set 65535 is displayed in ZTERMCS as "5535". This does not mean that ISPF has defined character set 5535 (X'159F'). Two other Z variables, ZTERMCS5 and ZTERMCP5, for character set and code page respectively, were created to handle 5-character character sets and code pages. For example, the character set 65535 is displayed in ZTERMCP5 as 65535.</p>
ZTERMCP5	shr	non	5	CECP support 5-digit code page
ZTERMCS5	shr	non	5	CECP support 5-character set
ZTERMCS	shr	non	4	CECP support 4-digit character set
ZTHS	shr	non	1	Multicultural support thousands separator character
ZTS	shr	non	1	Multicultural support time separator character
ZTSICMD	shr	non	32767	The entire initial invocation command string which invoked the ISPF environment. If storage cannot be obtained at startup, only the first 50 characters will be saved. The maximum length is 32767.
ZTSSCMD	shr	non	32767	SELECT portion of the initial invocation command. The maximum length is 32767.



Table 8. General variables (continued)				
Name	Pool	Type	Len	Description
ZUCTPREF	shr	non	4	First user command table name
ZUCTPRE2	shr	non	4	Second user command table name
ZUCTPRE3	shr	non	4	Third user command table name
ZUSER	shr	non	8	User ID
ZVERB	shr	out	8	Command verb after a SETVERB command table action
ZWINTTL	any	in	N/A	Title to be displayed in pop-up window frame
ZWSCDPG	shr	non	4	Variable ZWSCDPG is no longer used and is set to blanks.
ZWSCON	shr	non	68	Variable ZWSCON is no longer used and is set to blanks.
ZWSOPSYS	shr	non	16	Variable ZWSOPSYS is no longer used and is set to blanks.

## Terminal and function keys

Table 9. System variables: Terminal and function keys				
Name	Pool	Type	Len	Description
ZCOLORS	shr	non	4	Number of colors supported by the terminal type (either 1 or 7)
ZDBCS	shr	non	3	DBCS terminal capability (YES or NO)
ZFKA	prof	non	8	Current state of the function key area form (LONG, SHORT, OFF (no display))
ZGE	shr	non	3	Terminal support for graphic escape order: <b>YES</b> graphic escape is supported <b>NO</b> graphic escape is not supported <b>Note:</b> On a client that is using the JSON API, ZGE will be set to NO.
ZHILITE	shr	non	3	Extended highlighting availability (YES or NO)
ZIPADDR	shr	non	15	Variable ZIPADDR is no longer used and is set to blanks.
ZIPADD6	shr	non	39	Variable ZIPADD6 is no longer used and is set to blanks.
ZIPPORT	shr	non	4	Variable ZIPPORT is no longer used and is set to zeros.
ZLUNAME	shr	non	8	VTAM® LU name of the current TSO session. Entering a TERMSTAT QUERY command will refresh the value.
ZKEYS	prof	out	4	Number of Function keys
ZKLAPPL	shr	non	4	If KEYLIST is ON and it is a panel with the )PANEL statement, this contains the application id where the current keylist came from.
ZKLNAME	shr	non	8	If KEYLIST is ON and it is a panel with the )PANEL statement, this contains the name of the current keylist.
ZKLTYPE	shr	non	1	If KEYLIST is ON and it is a panel with the )PANEL statement, this contains either P (for Private) or S (for Shared) for the current keylist.
ZKLUSE	prof	i/o	1	If KEYLIST is ON this contains Y, if it is OFF, it contains an N.

Table 9. System variables: Terminal and function keys (continued)				
Name	Pool	Type	Len	Description
ZPFCTL	prof	i/o	5	User authorization to use PFSHOW command <ul style="list-style-type: none"> <li>• USER—User controls function key display with PFSHOW command</li> <li>• ON—Display function key definitions on all panels</li> <li>• OFF—Do not display function key definitions</li> </ul>
ZPFFMT	prof	i/o	4	Number of Function key definitions displayed per line <ul style="list-style-type: none"> <li>• SIX—Always display six keys per line</li> <li>• MAX—Display as many keys as will fit on each line</li> </ul>
ZPFSET	prof	i/o	4	Function key definition set displayed <ul style="list-style-type: none"> <li>• PRI—Primary set (1-12)</li> <li>• ALT—Alternate set (13-24)</li> <li>• ALL—All keys (1-24)</li> </ul>
ZPFSHOW	prof	out	4	PFSHOW command status
ZPFxx	prof	i/o	255	Setting for Function keys: ZPF13-ZPF24 contain settings for the primary keys (for 12-key terminals: physical keys 1-12; for 24-key terminals: physical keys 13-24) ZPF01-ZPF12 contain settings for the alternate keys (for 24-key terminals only: physical keys 1-12) The maximum length is 255.
ZPFLxx	prof	i/o	8	Setting for Function key labels: ZPFL13-ZPFL24 contain labels for the primary keys ZPFL01-ZPFL12 contain labels for the alternate keys
ZPRIKEYS	prof	i/o	4	Indicates the set of Function keys that will be the primary keys <ul style="list-style-type: none"> <li>• LOW—1 to 12 are primary keys</li> <li>• UPP—13 to 24 are primary keys</li> </ul>
ZSCREEN	shr	non	1	Logical screen number up to 32 screens (1-9, A-W)
ZSCREEND	shr	non	4	Screen depth available for dialog use. In batch mode, this variable is set by the value specified for BATSCRD on the ISPSTART call.
ZSCREENW	shr	non	4	Screen width available for dialog use. In batch mode this variable is set by the value specified for BATSCRW on the ISPSTART call.  ZSCREEND and ZSCREENW are generally the dimensions of the physical display screen. There are two exceptions: <ol style="list-style-type: none"> <li>1. On a 3290, if a dialog is executing on a display with a width of 160 characters and the user does a vertical split, then ZSCREENW is 80.</li> <li>2. On a 3278 model 5, if a user has specified SCREEN FORMAT IS STD, then ZSCREENW is 80 and ZSCREEND is 24, rather than the maximum physical size of 132 by 27.</li> </ol>
ZSCRMXD	shr	non	4	Maximum screen depth available for dialog use. In batch mode, this variable is set by the value specified for BATSCRD on the ISPSTART call.

Table 9. System variables: Terminal and function keys (continued)				
Name	Pool	Type	Len	Description
ZSCRMXW	shr	non	4	<p>Maximum screen width available for dialog use. In batch mode, this variable is set by the value specified for BATSCRW on the ISPSTART call.</p> <p>ZSCRMXD and ZSCRMXW are identical to ZSCREEND and ZSCREENW, except for terminals on which an alternate size is available. In that case, ZSCRMXD and ZSCRMXW contain the screen configuration size that produces the largest screen.</p> <p>For the 3290, these variables contain sizes of the hardware partition on which ISPF is operating.</p>
ZSPLIT	shr	non	3	Split-screen mode in effect (YES or NO)
ZSWPBR	prof	non	1	<p>List of logical screens displayed at bottom of screen.</p> <p>Has a value of Y if the SWAPBAR feature is turned on. If ZSWPBAR is not present, or does not have a value of Y then when ISPF is entered, SWAPBAR is not automatically started.</p>
ZTERM	prof	out	8	Terminal type as defined by option 0

## Scrolling

Table 10. Scrolling variables				
Name	Pool	Type	Len	Description
ZAMT	prof	i/o	4	Scroll amount for functions such as Dialog Test, the Keylist Utility, the Command Table Utility, and the LIBDEF Utility
ZDYNSCR	any	in	4	<p>If ISPF was invoked by a client and a panel with a dynamic area that can be scrolled is to be displayed, the application can set the value of ZDYNSCR to indicate whether the dynamic area can be scrolled up, down, left, or right on the next display. The variable value must be 4 bytes:</p> <ul style="list-style-type: none"> <li>• Byte 1 set to Y when the area can be scrolled up.</li> <li>• Byte 2 set to Y when the area can be scrolled down.</li> <li>• Byte 3 set to Y when the area can be scrolled left.</li> <li>• Byte 4 set to Y when the area can be scrolled right.</li> </ul>
ZSCBR	prof	i/o	4	Scroll amount for the BROWSE service
ZSCED	prof	i/o	4	Scroll amount for the EDIT service
ZSCML	prof	i/o	4	Scroll amount for member lists
ZSCRML	shr	non	1	Specifies if ISPF should scroll to the first member selected in the member list after processing or disable the member list from automatic scrolling and instead place the cursor in front of the last member selected.
ZSCROLLA	shr	out	4	Value from scroll amount field (PAGE, MAX, number)
ZSCROLLD	any	in	4	Value to be used as default scroll value for scrollable dynamic areas and table display

Table 10. Scrolling variables (continued)				
Name	Pool	Type	Len	Description
ZSCROLLN	shr	out	4	Scroll number as computed from the value in the scroll amount field or entered as a scroll value. The maximum scroll number supported for ZSCROLLN is 9999. If a scroll value greater than 9999 is entered the value for ZSCROLLN is set to 9999.
ZSCROLNL	shr	out	8	Scroll number as computed from the value in the scroll amount field or entered as a scroll value. ZSCROLNL supports scroll numbers up to 9999999.
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: <ul style="list-style-type: none"> <li>• Byte 1 set to Y when the table can be scrolled up.</li> <li>• Byte 2 set to Y when the table can be scrolled down.</li> <li>• Byte 3 set to Y when the table can be scrolled left.</li> <li>• Byte 4 set to Y when the table can be scrolled right.</li> </ul>
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

## PRINTG command

Table 11. System variables: PRINTG command				
Name	Pool	Type	Len	Description
ZASPECT	func	in	4	Aspect ratio of printed output from PRINTG
ZDEVNAM	func	in	8	Device name for PRINTG
ZFAMPRT	func	non	4	Family printer type for PRINTG

## Table display service

Table 12. System variables: Table display service				
Name	Pool	Type	Len	Description
ZTDADD	func	out	3	More rows needed to satisfy scroll request (YES NO)
ZTDAMT	func	out	4	Number of rows that the dialog should add to satisfy scroll up to 9999. Set to 9999 when number of rows is greater than 9999.
ZTDAMTL	func	out	8	Number of rows that the dialog should add to satisfy scroll
ZTDLROWS	func	in	6	Number of rows in the logical table (dynamic table expansion)
ZTDLTOP	func	in	6	Maps current top row in physical table to its position in logical table.
ZTDMARK	any	in	See note	User-defined text for table display Bottom-of-Data marker <b>Note:</b> Value can be any length that is not more than the screen width.

Table 12. System variables: Table display service (continued)				
Name	Pool	Type	Len	Description
ZTDMMSG	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
ZTDSCRIP	func	in/out	6	CRP of top row to be displayed after the scroll
ZTDSELS	func	out	4	Number of selected table rows upon return from each table display
ZTDSIZE	func	out	4	Size (number of model sets) of the table display scrollable section
ZTDSRID	func	out	6	Rowid of the row pointed to by ZTDSCRIP
ZTDTOP	func	out	6	Row number (CRP) of top row displayed during most recent table display
ZTDVROWS	func	out	6	Number of visible table rows upon return from table display

## LIST service

Table 13. System variables: LIST service				
Name	Pool	Type	Len	Description
ZLSTLPP	shr	non	4	Number of lines per page in list data set
ZLSTNUML	shr	non	4	Number of lines written to current list data set page
ZLSTTRUN	shr	non	4	List data set record length truncation value

## LOG and LIST data sets

Table 14. System variables: LOG and LIST data sets				
Name	Pool	Type	Len	Description
ZLOGNAME	shr	non	44	Contains the fully qualified data set name of the log data set.
ZLSTNAME	shr	non	44	Contains the fully qualified data set name of the list data set.

## Dialog error

Table 15. System variables: Dialog error				
Name	Pool	Type	Len	Description
ZERRALRM	func	out	3	Message alarm indicator (YES or NO)
ZERRHM	func	out	8	Name of help panel associated with error message
ZERRLM	func	out	512	Long error message text
ZERRMSG	func	out	8	Error message-id
ZERRSM	func	out	24	Short error message text
ZERRTYPE	func	out	8	Error message type
ZERRWIND	func	out	6	Error message window type

## Tutorial panels

Table 16. System variables: Tutorial panels

Name	Description
ZCONT	Name of next continuation panel
ZHINDEX	Name of first index panel
ZHTOP	Name of top panel
ZIND	YES specifies an index page
ZUP	Name of parent panel

## Selection panels

Table 17. System variables: Selection panels

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

## DTL panels or panels containing a )PANEL section

Table 18. System variables: DTL panels or panels containing a )PANEL section

Name	Pool	Type	Len	Description
ZCURFLD	func	out	8	Name of field (or list column) containing the cursor when the user exits the panel.
ZCURINX	func	out	8	For table display panels, the current row number of the table row containing the cursor. The value ZCURINX is in character format. If the cursor is not within a table row, this value will be 0.
ZCURPOS	func	out	4	Position of the cursor within the field specified by ZCURFLD when the user exits the panel. The value in ZCURPOS is in character format. If the cursor is not within a field, ZCURPOS will contain a 1.

**Note:** These variables will contain the values that would result if they were set to .CURSOR, .CSRPOS, and .CSRROW, as the first statements in the panel's )PROC section.

## Chapter 7. Dialog variables

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 19. Dialog function pool variables				
Variable Name	Format	Length	Service (Access)	Description
ZCMD	Char	256	LMMDISP(W)	Primary Command field from member list panel if the command is not a valid ISPF or PDF primary command.
ZDLBLKSZ	Char	5	LMDLIST(W)	Block size.
ZDLCATNM	Char	44	LMDLIST(W)	Name of the catalog in which the data set was located.
ZDLCDATE	Char	10	LMDLIST(W)	Creation date.
ZDLDEV	Char	8	LMDLIST(W)	Device type.
ZDLDSNTP	Char	8	LMDLIST(W)	DS name type ('PDS', 'LIBRARY', or ' ').
ZDLDSORG	Char	4	LMDLIST(W)	Data set organization.
ZDLEDATE	Char	10	LMDLIST(W)	Expiration date.
ZDLEXT	Char	3	LMDLIST(W)	Number of extents used.
ZDLEXTX	Char	5	LMDLIST(W)	Number of extents used (long format).
ZDLLRECL	Char	5	LMDLIST(W)	Logical record length.
ZDLMIGR	Char	3	LMDLIST(W)	Whether the data set is migrated (YES or NO).
ZDLMVOL	Char	1	LMDLIST(W)	Multivolume indicator (Y or N).
ZDLOVF	Char	3	LMDLIST(W)	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.
ZDLRDATE	Char	10	LMDLIST(W)	Date last referenced.

Table 19. Dialog function pool variables (continued)				
Variable Name	Format	Length	Service (Access)	Description
ZDLRECFM	Char	5	LMDLIST(W)	Record format.
ZDLSIZE	Char	6	LMDLIST(W)	Data set size in tracks.
ZDLSIZEEX	Char	12	LMDLIST(W)	Data set size in tracks (long format).
ZDLSPACU	Char	10	LMDLIST(W)	Space units, one of the following values: CYLINDERS, MEGABYTES, KILOBYTES, BYTES, BLOCKS or TRACKS.
ZDLUSED	Char	3	LMDLIST(W)	Percentage of used tracks or pages (PDSE).
ZDLVOL	Char	6	LMDLIST(W)	Volume serial.
ZDSN	Char	44	LMMDISP(W)	Name of the first or only data set in the concatenation of the member list being displayed. This variable is only available for member list panels.
ZDST	Char	54	BRIF (W) EDIF (W)	Title line data name for EDIF and BRIF.
ZEDBDSN	Char	44	EDIT (R) EDREC(W)	Backup data set name for standard edit recovery.
ZEDILMSG	Char	240	Any Edit macro	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.
ZEDISMSG	Char	24	Any Edit macro	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.
ZEDITCMD	Char	8	Any Edit macro	The last primary command entered in Edit.
ZEDMSGNO	Char	8	Any Edit macro	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.
ZEDROW	Fixed	4	EDIT (R) EDREC(W)	Row number of entry in standard edit recovery table.
ZEDSAVE	Char	8	Data_changed EDIT macro command	END command will save data (SAVE or NOSAVE).
ZEDTDSN	Char	44	EDIT (R) EDREC(W)	Target data set name for standard edit recovery.
ZEDTMCMD	Char	8	Any Edit macro	The edit command entered that caused an edit macro to run. Can be the macro name or other name is the edit DEFINE command was used to define an alias.
ZEDTMEM	Char	8	EDIT (R) EDREC(W)	Target member name (if applicable) for standard edit recovery.
ZEDTRD	Char	6	EDIT (R) EDREC(W)	Volume serial of target data set for standard edit recovery.
ZEDUSER	Char	1	EDIT (R) EDREC(W)	User data table extension for standard edit recovery.



Table 19. Dialog function pool variables (continued)				
Variable Name	Format	Length	Service (Access)	Description
ZEIBSDN	Char	54	EDIF (R) EDIREC(W)	Backup data name for EDIF edit recovery.
ZEIROW	Fixed	4	EDIF (R) EDIREC(W)	Row number of entry in EDIF edit recovery table.
ZEITDSN	Char	54	EDIF (R) EDIREC(W)	Target data name for EDIF edit recovery.
ZEIUSER	Char	1	EDIF (R) EDIREC(W)	User data table extension variable for EDIF edit recovery.
ZERRALRM	Char	3	ALL(W)	The value YES if an alarm was specified in the message definition; otherwise, the value NO. Set when ISPF services issue a return code of 8 or greater.
ZERRHM	Char	8	ALL(W)	The name of a Help panel, if one was specified in the message definition. Set when ISPF services issue a return code of 8 or greater.
ZERRLM	Char	512	ALL(W)	Long-message text in which variables have been resolved. Set when ISPF services issue a return code of 8 or greater.
ZERRMSG	Char	8	ALL(W)	Message ID. Set when ISPF services issue a return code of 8 or greater.
ZERRSM	Char	24	ALL(W)	Short-message text in which variables have been resolved. Set when ISPF services issue a return code of 8 or greater.
ZGEN	Fixed	4	Any Edit macro	The generation number for the PDSE member generation being edited. This is the value at the time that the edit session started.
ZGENH	Fixed	4	Any Edit macro	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.
ZGRPLVL	Char	8	LMHIER (W)	ISPF table variable that contains the level of this ISPF library in the controlled hierarchy.
ZGRPNME	Char	8	LMHIER (W)	ISPF table variable that contains the ISPF library group name.
ZHIAUTO	Char	3	EDIT(R) EDIF(R) VIEW(R) VIIF(R)	(SHARED) ON when AUTO language determination is enabled, otherwise OFF.

Table 19. Dialog function pool variables (continued)

Variable Name	Format	Length	Service (Access)	Description
ZHILANG	Char	8	EDIT(R) EDIF(R) VIEW(R) VIIF(R)	(SHARED) Programming Language name.
ZHICOLOR	Char	8	EDIT(R) EDIF(R) VIEW(R) VIIF(R)	(SHARED) Coloring indicator as well as DO-IF LOGIC enablement. OFF indicates HILITE is disabled regardless of all other variable settings. Values are ON, OFF, LOGIC, IFLOGIC, and DOLOGIC.
ZHIPAREN	Char	3	EDIT(R) EDIF(R) VIEW(R) VIIF(R)	(SHARED) ON when parenthesis matching is enabled, otherwise OFF.
ZHIFIND	Char	3	EDIT(R) EDIF(R) VIEW(R) VIIF(R)	(SHARED) ON when Hilite FIND strings is enabled, otherwise OFF.
ZHICURSR	Char	3	EDIT(R) EDIF(R) VIEW(R) VIIF(R)	(SHARED) ON when Hilite cursor phrase is enabled, otherwise OFF.
ZLAC	Char	2	LMMDISP(W) LMMFIND(W) LMMLIST(W)	Authorization code of the member.
ZLALIAS	Char	8	LMMDISP(W) LMMFIND(W) LMMLIST(W)	Name of the real member of which this member is an alias.
ZLAMODE	Char	3	LMMDISP(W) LMMFIND(W) LMMLIST(W)	AMODE of the member.
ZLATTR	Char	20	LMMDISP(W) LMMFIND(W) LMMLIST(W)	Load module attributes. See the <a href="#">z/OS ISPF Services Guide</a> .

Table 19. Dialog function pool variables (continued)				
Variable Name	Format	Length	Service (Access)	Description
ZLCDATE	Char	8	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	Date on which the specified member was created. A character string in the national format. For example, yy/mm/dd or mm/dd/yy. If no value exists for this variable, the PDF component will set the value to blanks.
ZLC4DATE	Char	10	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(W)	Date on which the specified member was created, in 4-character year format. A character string in the national format. For example, yyyy/mm/dd or mm/dd/yyyy. If no value exists for this variable, the PDF component will set the value to blanks.
ZLCNORC	Fixed	4	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	Current number of records in the specified member. A number from 0 to 65 535. If no value exists for this variable, the PDF component will set the value to blanks.
ZLINORC	Fixed	4	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	Number of records in the specified member when it was first created. A number from 0 to 65 535.
ZLLIB	Fixed	4	LMMDISP(W) LMMFIND(W) LMMLIST(W)	Position of the specified member in the concatenated data sets. A number from 1 to 4.
ZLMDATE	Char	8	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	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.
ZLM4DATE	Char	10	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(W)	Date on which the specified member was last modified, in 4-character year format. A character string in the national format. (For example, yyyy/mm/dd or mm/dd/yyyy.) If no value exists for this variable, the PDF component will set the value to blanks.
ZLMEMBER	Char	8	LMMDISP(W)	Name of the current selected member.
ZLMNORC	Fixed	4	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	The number of records that have been modified in the specified member. A number from 0 to 65 535.
ZLMOD	Fixed	4	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	Modification level of the specified member. A number from 0 to 99.

Table 19. Dialog function pool variables (continued)

Variable Name	Format	Length	Service (Access)	Description
ZLMTIME	Char	5	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	Time when the specified member was last modified. A character string in the form hh:mm.
ZLMSEC	Char	2	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	Seconds value of last modified time.
ZLSSI	Char	8	LMMDISP(W) LMMFIND(W) LMMLIST(W)	SSI (System Status Index) of the load module.
ZLPDSUDA	Char	62	LMMDISP(W)	A character string containing the contents of the user data area in the PDS directory entry of the specified member if the member's statistics are not in PDF format.
ZLRMODE	Char	3	LMMDISP(W) LMMFIND(W) LMMLIST(W)	RMODE of the member.
ZLSIZE	Char	8	LMMDISP(W) LMMFIND(W) LMMLIST(W)	Load module size (in Hex).
ZLTTR	Char	6	LMMDISP(W) LMMFIND(W) LMMLIST(W)	TTR of the member.
ZLUSER	Char	7	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	<p>User ID of user who last modified the specified member; the user ID has a maximum length of 7 characters.</p> <ul style="list-style-type: none"> <li>For services that read from this variable, you must use the ZLUSER8 variable if you want to specify an 8-character user ID.</li> <li>For services that write to this variable, when the user ID is an 8-character value, this variable contains the value '&gt;7CHARS'; the 8-character user ID can be obtained from the ZLUSER8 variable.</li> </ul>
ZLUSER8	Char	8	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	<p>User ID of the last user to change the given member.</p> <ul style="list-style-type: none"> <li>When 8-character user IDs are enabled on the system, the user ID has a maximum length of 8 characters.</li> <li>When 8-character user IDs are not enabled on the system, the user ID has a maximum length of 7 characters.</li> </ul>

<i>Table 19. Dialog function pool variables (continued)</i>				
<b>Variable Name</b>	<b>Format</b>	<b>Length</b>	<b>Service (Access)</b>	<b>Description</b>
ZLVERS	Fixed	4	LMMADD(R) LMMDISP(W) LMMFIND(W) LMMLIST(W) LMMREP(R)	Version number of the specified member. A number from 1 to 99. If no value exists for this variable, the PDF component will set the value to blanks.
ZMEMCNT	Char	8	LMMLIST(W)	Number of members in the member list.
ZMLCOLS	Char	80	LMMDISP(W)	A character string that contains the member statistics column headings that appear on the member list panel display. This variable is only available for member list panels.
ZMLCR	Fixed	4	LMMDISP(W)	The relative number in the member list of the member that appears at the top of the member list display. Its range is from 1-99 999. This variable is only available for member list panels.
ZMLTR	Fixed	4	LMMDISP(W)	Number of members in the member list. Its range is from 1-99 999. This variable is only available for member list panels.
ZMSRTFLD	Char	8	ALL(W)	Contains the field name used to sort a member list. Field name corresponds to the title line used in member list panels, with the exceptions of the 'VV MM' field which is returned as VVMM, and the attributes field which is returned as ATTRIBUT.
ZSCALIAS	Char	1	LMINIT(W)	Data set name is an alias ('Y' or 'N').
ZSCLM	Char	1	LMMDISP(W) LMMFIND(W) LMMLIST(W)	Last updater of member. 'Y' indicates SCLM was last updater. 'N' indicates PDF.
ZSCMVOL	Char	1	LMINIT(W)	Data set name is multivolume ('Y' or 'N').
ZUSERMAC	Char	8	EDIT(R) EDIF(R) VIEW(R) VIIF(R)	Application-wide edit macro.

## PDF non-modifiable variables

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

<i>Table 20. Read-only variables available to PDF component dialogs</i>				
<b>Variable Name</b>	<b>Format</b>	<b>Length</b>	<b>Service (Access)</b>	<b>Description</b>
ZCUNIT	Char	8	none	Unit name to be used for temporary allocations. This variable comes from ISPF configuration table keyword PDF_DEFAULT_UNIT.

<sup>1</sup> Length limited only by ISPF restrictions on the length of table extension variables.

Table 20. Read-only variables available to PDF component dialogs (continued)

Variable Name	Format	Length	Service (Access)	Description
ZCUSIZE	Fixed	4	none	Number of kilobytes available for use by the edit UNDO command when running in SETUNDO STORAGE mode. This variable comes from ISPF configuration table Keyword UNDO_STORAGE_SIZE. See <a href="#">z/OS ISPF Edit and Edit Macros</a> for further information.
ZICFPRT	Char	3	none	ICF indicator. 'YES' - All foreground print requests will be processed using ICF. 'NO' - ICF will not be used. This variable comes from ISPF configuration table keyword PRINT_USING_ICF.
ZPDFREL	Char	8	none	PDF version number in the form "PDF x.y ". The string x.y identifies the version and release of z/OS: <ul style="list-style-type: none"> <li>• 7.5 means ISPF for z/OS Version 2 Release 5.0</li> <li>• 7.4 means ISPF for z/OS Version 2 Release 4.0</li> <li>• 7.3 means ISPF for z/OS Version 2 Release 3.0</li> <li>• 7.2 means ISPF for z/OS Version 2 Release 2.0</li> </ul>
ZSESS	Char	8	none	This variable contains either 'Y' or 'N' and comes from the ISPF configuration table keyword USE_SESSION_MANAGER. See the description of the general system variable ZSM for additional information.
ZSWIND	Char	4	none	Sliding window value used by PDF for determining the century of 2-character years. This variable comes from ISPF configuration table keyword YEAR_2000_SLIDING_RULE. Dates less than or equal to this value are 20xx. Dates greater than this value are 19xx.

## 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 V2R5 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 21. Tag summary*

Tag	End tag	Attributes	Nested tags	Used within
AB	Yes	MNEMGEN=YES   NO ABSEPSTR=ab-separator-string ABSEPCHAR=ab-separator-character	ABC	PANEL
ABC	No	HELP=NO   YES   help-panel-name   *help-message-id   %varname   *%varname PDCVAR=pdc-variable-name <i>choice-description-text</i>	COMMENT M PDC PDSEP SOURCE	AB
ACTION	No	RUN=internal-command-name   %varname PARM=parameters   %varname APPLCMD=NO   YES TYPE=CMD   PGM   PANEL   EXIT NEWAPPL   NEWAPPL=application-id NEWWINDOW PASSLIB NEWPOOL SUSPEND SCRNAME=screen-name NOCHECK ADDPop OPT=option   %varname MODE=LINE   FSCR LANG=APL   CREX BARRIER NEST  SETVAR=variable-name VALUE= <u>1</u>   string   %varname TOGVAR=variable-name VALUE1= <u>0</u>   string   %varname VALUE2= <u>1</u>   string   %varname		CHOICE PDC

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
AREA	Yes	MARGINW= <u>1</u>   n MARGIND= <u>0</u> INDENT=n DEPTH=n   * EXTEND= <u>OFF</u>   ON   FORCE DIV= <u>NONE</u>   BLANK   SOLID   DASH   TEXT DIVWIDTH= <u>MAX</u>   MIN FORMAT=START   CENTER   END TEXT=divider-text  WIDTH=n DIR= <u>VERT</u>   HORIZ	COMMENT DA DIVIDER DTACOL DTAFLD GA GENERATE GRPHDR INFO LSTFLD PNLINST REGION SELFLD SOURCE	HELP PANEL
ASSIGNI	No	VALUE=test-value RESULT=assigned-value		ASSIGNL
ASSIGNL	Yes	DESTVAR=destination-variable-name	ASSIGNI	DTAFLD
ATTENTION	Yes	<i>text</i>	DL FIG HP LINES NOTE NOTEL NT OL P PARML PS RP SL UL XMP	LI LP P



Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
ATTR	No	ATTRCHAR=code TYPE=DATAIN   DATAOUT   CHAR INTENS= <u>HIGH</u>   LOW   NON   %varname CAPS=OFF   ON   IN   OUT   %varname JUST=ASIS   LEFT   RIGHT   %varname PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname SKIP= <u>OFF</u>   ON   %varname GE= <u>OFF</u>   ON   %varname COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname HILITE=USCORE   BLINK   REVERSE   %varname NUMERIC= <u>OFF</u>   ON   %varname FORMAT=EBCDIC   DBCS   MIX   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname PAS= <u>OFF</u>   ON   %varname CKBOX= <u>OFF</u>   ON   %varname CUADYN=CEF   EE   LEF   NEF   VOI   LID   LI   CH   CT   DT   ET   FP   NT   PIN   PT   SAC   SI   SUC   WASL   WT   %varname CSRGRP= <u>NO</u>   YES   n ATTN= <u>OFF</u>   ON   %varname		DA
BOTINST	No	COMPACT <i>instruction-text</i>	HP PS RP	PANEL
CAUTION	Yes	<i>text</i>	DL FIG HP LINES NOTE NOTEL NT OL P PARML PS RP SL UL XMP	LI LP P
CHDIV	No	TYPE= <u>NONE</u>   SOLID   DASH   TEXT GUTTER= <u>1</u>   n FORMAT= <u>START</u>   CENTER   END <i>divider-text</i>	HP	SELF FLD CHOICE

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
CHECKI	No	TYPE= RANGE PARM1=low-bound   %varname 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 LISTVX PARM1=NE PARM2=%varlist ALPHAB LEN PARM1=operator   %varname PARM2=length   %varname EBCDIC ENUM DSNAMES DSNAMESF DSNAMESFM DSNAMESPQ DSNAMESQ MIX HEX FILEID INCLUDE PARM1=IMBLK PARM2=ALPHA   ALPHAB   NUM PARM3=ALPHA   ALPHAB   NUM		CHECKL

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
CHECKI	No	TYPE= IDATE STDDATE JDATE JSTD ITIME STDTIME IPADDR4		CHECKL
CHECKL	Yes	MSG=message-identifier	CHECKI	VARCLASS
CHOFLD	No	DATAVAR=field-data VARCLASS=variable-class-name HELP= <u>NO</u>   YES   help-panel-name   *help-message-id   %varname   *%varname USAGE= <u>BOTH</u>   IN   OUT REQUIRED= <u>NO</u>   YES MSG=message-identifier AUTOTAB= <u>NO</u>   YES ENTWIDTH=n FLDSPACE=n ALIGN= <u>START</u>   CENTER   END DISPLAY= <u>YES</u>   NO NOENDATTR PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname PSVAR=point-and-shoot-variable   %varname PSVAL=point-and-shoot-value   %varname PAS=%varname EXPAND ATTRCHANGE= <u>NO</u>   YES   NEW INIT=initial-value IMAPNAME=image-name   %varname IMAPNAMEP=image-namep   %varname PLACE= <u>ABOVE</u>   BELOW   LEFT   RIGHT   %varname ATTRCHAR=code CAPS= <u>OFF</u>   ON <i>choice-description-text</i>	ACTION COMMENT HP PS RP SOURCE	CHOICE

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
CHOICE	No	NAME=choice-name HELP= <u>NO</u>   YES   help-panel-name   *help-message-id   %varname   *%varname CHECKVAR=variable-name MATCH= <u>1</u>   string NOMATCH= <u>0</u>   string AUTOTAB= <u>YES</u>   NO SELCHAR='char(s),n' PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname  HIDE HIDEX UNAVAIL=variable-name UNAVAILMAT= <u>1</u>   string TRUNC=n AUTOSEL= <u>YES</u>   NO <i>choice-description-text</i>	ACTION CHOFLD COMMENT HP PS RP SOURCE	SELFLD
CMD	No	NAME=internal-command-name ALTDESCR=command-description <i>external-command-name</i>	CMDACT T	CMDTBL
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		CMD

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
CMDAREA	No	HELP= <u>NO</u>   YES   help-panel-name   *help-message-id   %varname   *%varname PMTLOC= <u>BEFORE</u> NOINIT PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname NAME=cmdarea-variable-name ENTWIDTH=n PMTTEXT= <u>YES</u>   NO CMDLOC= <u>DEFAULT</u>   ASIS CMDLEN= <u>DEFAULT</u>   MAX AUTOTAB= <u>NO</u>   YES SCROLLVAR=scroll-variable SCRVHELP= <u>NO</u>   YES   scroll-help-panel-name  *scroll-help-message-id   %varname  *%varname SCROLLTAB= <u>NO</u>   YES SCRCAPS= <u>OFF</u>   ON PSBUTTON=cmd-pb-text PSVAR=point-and-shoot-variable   %varname PSVAL=point-and-shoot-value   %varname IMAPNAME=image-name   %varname IMAPNAMEP=image-namep   %varname PLACE= <u>ABOVE</u>   BELOW   LEFT   RIGHT   %varname CAPS= <u>OFF</u>   ON NOJUMP= <u>OFF</u>   ON VARDCL= <u>YES</u>   NO <i>command-prompt-text</i>	HP	PANEL
CMDTBL	Yes	APPLID=application-identifier SORT= <u>NO</u>   YES	CMD	
COMMENT	No	TYPE= <u>END</u>   CCSID   PANEL   ATTR   ABCINIT   ABCPROC   INIT   REINIT   PROC   HELP   PNTS   LIST <i>comment-text</i>		ABC AREA CHOICE DA DTACOL DTAFLD HELP LSTCOL LSTFLD LSTGRP MSGMBR PANEL PDC REGION SELFELD

Table 21. Tag summary (continued)

Tag	End tag	Attributes	Nested tags	Used within
COMPOPT	No	<u>REPLACE</u>   NOREPLACE <u>SCREEN</u>   DISK <u>NODBCS</u>   DBCS NOKANA   KANA KEYLAPPL=xxxx <u>NOPANEL</u>   PANEL <u>NOMSGSUPP</u>   MSGSUPP <u>NOCUASUPP</u>   CUASUPP <u>PREP</u>   NOPREP <u>CUAATTR</u>   NOCUAATTR <u>NOLSTVIEW</u>   LSTVIEW <u>STATS</u>   NOSTATS <u>NOSCRIP</u>   SCRIPT <u>NOLISTING</u>   LISTING <u>NOFORMAT</u>   FORMAT <u>NOMSGEXPAND</u>   MSGEXPAND <u>LOGREPL</u>   NOLOGREPL <u>LISTREPL</u>   NOLISTREPL <u>ACTBAR</u>   NOACTBAR <u>GUI</u>   NOGUI <u>VERSION</u>   NOVERSION <u>NOMERGESAREA</u>   MERGESAREA <u>NODISPLAY</u>   DISPLAY <u>NODISPLAYW</u>   DISPLAYW <u>DSNCHK</u>   NODSNCHK <u>GRAPHIC</u>   NOGRAPHIC <u>ZVARS</u>   NOZVARS <u>NODBALIGN</u>   DBALIGN <u>NOMCOMMENT</u>   MCOMMENT <u>NOVPADC</u>   PADC ADD RESET <i>national-language</i>	None	
COPYR	No	<i>copyright-text</i>		

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
DA	Yes	NAME=varname EXTEND= <u>OFF</u>   ON   FORCE LVLINE=variable-name SCROLL= <u>OFF</u>   ON   CMDLINE USERMOD=usermod-code   %varname DATAMOD=datamod-code   %varname DEPTH=n   * WIDTH=n SHADOW=shadow-name DIV= <u>NONE</u>   BLANK   SOLID   DASH   TEXT FORMAT=START   CENTER   END TEXT=divider-text SCROLLVAR=scroll-variable SCRVHELP= <u>NO</u>   YES   scroll-help-panel-name  *scroll-help-message-id   %varname   *%varname SCROLLTAB= <u>NO</u>   YES SCRCAPS= <u>OFF</u>   ON INITATTR= <u>NT</u>   CT   ET   WT   WASL HELP= <u>NO</u>   YES   help-panel-name   *help-message-id   %varname   *%varname	ATTR COMMENT SOURCE	AREA PANEL REGION
DD	No	<i>definition-description</i>	DL FIG HP LINES NOTE NOTEL NT OL P PARML PS RP SL UL XMP	DL
DDHD	No	<i>definition-description-header</i>	HP PS RP	DL
DIVIDER	No	TYPE= <u>NONE</u>   SOLID   DASH   TEXT GAP= <u>YES</u>   NO GUTTER= <u>1</u>   n NOENDATTR FORMAT=START   CENTER   END <i>divider-text</i>	HP	AREA DTACOL PANEL REGION

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
DL	Yes	TSIZE= <u>10</u>   'S1, S2,... Sn' BREAK= <u>NONE</u>   FIT   ALL COMPACT NOSKIP INDENT=n FORMAT=START   CENTER   END DIVEND= <u>NO</u>   YES SPLIT= <u>NO</u>   YES	DD DDHD DLDIV DT DTHD DTDIV DTHDIV	ATTENTION CAUTION DD FIG INFO LI LINES LP NT PD WARNING XMP
DLDIV	No	TYPE= <u>NONE</u>   SOLID   DASH   TEXT GAP= <u>YES</u>   NO GUTTER= <u>1</u>   n FORMAT=START   CENTER   END <i>divider-text</i>	HP	DL
DT	No	FORMAT=START   CENTER   END NOSKIP SPLIT= <u>NO</u>   YES <i>definition-term</i>	DTSEG HP PS RP	DL
DTACOL	Yes	PMTWIDTH=n   *   ** ENTWIDTH=n DESWIDTH=n   * SELWIDTH=n   * FLDSpace=n PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname PMTFMT= <u>CUA</u>   ISPF   NONE   END AUTOTAB= <u>NO</u>   YES ATTRCHANGE= <u>NO</u>   YES   NEW PMTLOC= <u>BEFORE</u>   ABOVE DBALIGN= <u>YES</u>   NO   PROMPT   FIELD   FORCE VARCLASS=variable-class-name REQUIRED= <u>NO</u>   YES CAPS= <u>OFF</u>   ON VARDCL= <u>YES</u>   NO	COMMENT DIVIDER DTAFLD GRPHDR SELFLD SOURCE	AREA PANEL REGION



Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
DTAFLD	No	NAME=field-name DATAVAR=field-data VARCLASS=variable-class-name HELP= <u>NO</u>   YES   help-panel-name   *help-message-id   %varname   *%varname USAGE= <u>BOTH</u>   IN   OUT REQUIRED= <u>NO</u>   YES MSG=message-identifier AUTOTAB= <u>NO</u>   YES ENTWIDTH=n PMTWIDTH=n   *   ** DESWIDTH=n   * FLDSPACE=n ALIGN= <u>START</u>   CENTER   END PMTLOC= <u>BEFORE</u>   ABOVE DISPLAY= <u>YES</u>   NO NOENDATTR PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname PMTFMT= <u>CUA</u>   ISPF   NONE   END PSVAR=point-and-shoot-variable   %varname PSVAL=point-and-shoot-value   %varname PAS=%varname CSRGRP= <u>NO</u>   YES   n EXPAND FLDWIDTH=n ATTRCHANGE= <u>NO</u>   YES   NEW INIT=initial-value DEPTH=n   %varname IMAPNAME=image-name   %varname IMAPNAMEP=image-namep   %varname PLACE= <u>ABOVE</u>   BELOW   LEFT   RIGHT   %varname DBALIGN= <u>YES</u>   NO   PROMPT   FIELD   FORCE PMTSKIP= <u>NO</u>   YES DESSKIP= <u>NO</u>   YES FLDTYPE= <u>CUA</u>   ISPF COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname INTENS= <u>HIGH</u>   LOW   NON   %varname HILITE=USCORE   BLINK   REVERSE   %varname ATTRCHAR=code CAPS= <u>OFF</u>   ON NOJUMP= <u>OFF</u>   ON AUTOTYPE=PROJECT   GROUP1   GROUP2   GROUP3   GROUP4   TYPE   MEMBER   DSN AUTOVOL=volser-name AUTODMEM= <u>YES</u>   NO VARDCL= <u>YES</u>   NO prompt-text	ASSIGNL COMMENT DTAFLDD HP PS RP SOURCE SCRFLD	AREA DTACOL PANEL REGION

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
DTAFLDD	No	<i>description</i>	HP PS RP	DTAFLD
DTDIV	No			DL
DTHD	No	<i>definition-term-header</i>	HP PS RP	DL
DTHDIV	No			DL
DTSEG	No			DT
FIG	Yes	FRAME= <u>RULE</u>   NONE WIDTH= <u>PAGE</u>   COL NOSKIP <i>figure-content</i>	DL FIGCAP HP NOTE NOTEL NT OL P PARML PS RP SL UL XMP	ATTENTION CAUTION DD INFO LI LP NT PD WARNING
FIGCAP	No	<i>figure-caption-text</i>	HP PS RP	FIG
GA	No	NAME=graphic-area-name EXTEND= <u>OFF</u>   ON   FORCE DEPTH=n   * WIDTH=n DIV= <u>NONE</u>   BLANK   SOLID   DASH   TEXT FORMAT=START   CENTER   END TEXT=divider-text LVLINE=variable-name		AREA PANEL REGION
GENERATE	Yes	SUBSTITUTE= <u>NO</u>   YES	ATTR COMMENT SOURCE	AREA HELP PANEL REGION

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
GRPHDR	No	FORMAT= <u>START</u>   CENTER   END   NONE WIDTH=n FMTWIDTH=n INDENT=n HEADLINE= <u>NO</u>   YES DIV= <u>NONE</u>   BLANK   SOLID   DASH DIVLOC= <u>AFTER</u>   BEFORE   BOTH COMPACT STRIP <i>group-heading-text</i>	HP PS RP	AREA DTACOL PANEL REGION
HELP	Yes	NAME=help-panel-name HELP=hhelp-panel-name   %varname HELPDEF=helpdef-id WIDTH= <u>50</u>   n   FIT DEPTH= <u>10</u>   n   FIT CCSID=n TUTOR KEYLIST=key-list-name KEYLTYPE= <u>PRIVATE</u>   SHARED APPLID=application-id EXPAND=xy WINTITLE=window-title APPTITLE=application-title MERGESAREA= <u>NO</u>   YES MSGLINE= <u>YES</u>   NO IMAPNAME=image-name   %varname IMAPROW=n   %varname IMAPCOL=n   %varname ZUP=zup-id ZCONT=zcont-id <i>help-panel-title</i>	AREA COMMENT DIVIDER GENERATE HP INFO REGION SOURCE TEXTLINE	
HELPDEF	No	ID=helpdef-id HELP=hhelp-panel-name   %varname WIDTH=n   FIT DEPTH=n   FIT CCSID=n KEYLIST=key-list-name KEYLTYPE= <u>PRIVATE</u>   SHARED APPLID=application-id EXPAND=xy WINTITLE=window-title APPTITLE=application-title MERGESAREA= <u>NO</u>   YES IMAPNAME=image-name   %varname IMAPROW=n   %varname IMAPCOL=n   %varname		
H1	No	COMPACT <i>heading-text</i>		INFO

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
H2/H3/H4	No	COMPACT <i>heading-text</i>	HP PS RP	INFO
HP	Yes	TYPE= <u>ET</u>   CH   CT   FP   LEF   LI   NT   PT   SAC   TEXT   WASL   WT COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname INTENS= <u>HIGH</u>   LOW   NON   %varname HILITE=USCORE   BLINK   REVERSE   %varname INTENSE=varname <i>phrase-to-be-highlighted</i>		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

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
INFO	Yes	WIDTH=format-width   * INDENT=n	DIVIDER DL FIG Hn LINES NOTE NOTEL NT OL P PARML SL SOURCE UL XMP	AREA HELP PANEL REGION
KEYI	No	KEY=virtual-key CMD=internal-command-name CASE= <u>UPPER</u>   MIXED FKA= <u>NO</u>   YES   LONG   SHORT PARM=parm-string <i>FKA-text</i>		KEYL
KEYL	Yes	NAME=key-list-name HELP=help-panel-name ACTION=UPDATE   DELETE APPLID=application-id	KEYI	
LI	No	SPACE= <u>NO</u>   YES NOSKIP <i>item-text</i>	ATTENTION CAUTION DL FIG HP LINES NOTE NOTEL NT OL P PARML PS RP SL UL WARNING XMP	NOTEL OL SL UL

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
LINES	Yes	NOSKIP <i>text</i>	DL HP NOTE NOTEL NT OL P PARML PS RP SL UL XMP	ATTENTION CAUTION DD INFO LI LP NT PD WARNING
LIT	Yes	<i>literal-display-value</i>		XLATI
LP	No	NOSKIP <i>implied-paragraph</i>	ATTENTION CAUTION DL FIG HP LINES NOTE NOTEL NT OL P PARML PS RP SL UL WARNING XMP	NOTEL OL SL UL

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
LSTCOL	No	DATAVAR=column-data VARCLASS=variable-class-name HELP= <u>NO</u>   YES   help-panel-name   * help-message-id   %varname   *%varname USAGE= <u>BOTH</u>   IN   OUT REQUIRED= <u>NO</u>   YES MSG=message-id COLWIDTH=data-width ALIGN= <u>START</u>   CENTER   END AUTOTAB= <u>NO</u>   YES LINE=n CLEAR POSITION=n FORMAT= <u>START</u>   CENTER   END TEXT=descriptive-text TEXTLOC= <u>BEFORE</u>   AFTER TEXTFMT= <u>START</u>   CENTER   END TEXTLEN=n TEXTSKIP= <u>NO</u>   YES NOENDATTR PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname PAS= <u>OFF</u>   ON   %varname CSRGRP= <u>NO</u>   YES   n ATTRCHANGE= <u>NO</u>   YES   NEW COLSPACE=n COLTYPE= <u>CUA</u>   ISPF   EE   VOI   LID COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname INTENS= <u>HIGH</u>   LOW   NON   %varname HILITE=USCORE   BLINK   REVERSE   %varname CAPS= <u>OFF</u>   ON DISPLAY= <u>YES</u>   NO VARDCL= <u>YES</u>   NO <i>column-heading</i>	COMMENT HP PS RP SOURCE SCRFLD	LSTFLD LSTGRP
LSTFLD	Yes	RULES= <u>NONE</u>   HORIZ   VERT   BOTH ROWS= <u>NOSCAN</u>   SCAN   %varname DIV= <u>NONE</u>   BLANK   SOLID   DASH   char SCROLLVAR=scroll-variable SCRHELP= <u>NO</u>   YES   scroll-help-panel-name *scroll-help-message-id   %varname   *%varname SCROLLTAB= <u>NO</u>   YES SCRCAPS= <u>OFF</u>   ON ATTRCHANGE= <u>NO</u>   YES   NEW VARDCL= <u>YES</u>   NO	COMMENTL STCOL LSTGRP LSTVAR SOURCE	AREA PANEL REGION

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
LSTGRP	Yes	HEADLINE= <u>NO</u>   YES   DASH ALIGN= <u>CENTER</u>   START   END <i>column-group-heading</i>	COMMENT HP LSTCOL LSTGRP LSTVAR PS RP SOURCE	LSTFLD LSTGRP
LSTVAR	No	DATAVAR=variable-model-name LINE=n <i>column-heading</i>	COMMENT HP PS RP SOURCE	LSTFLD LSTGRP
M	No	<i>mnemonic-character</i>		ABC PDC
MSG	No	SUFFIX=message-suffix-number HELP=help-panel-name   %varname   * MSGTYPE= <u>INFO</u>   WARNING   ACTION   CRITICAL   %varname LOCATION=AREA   MODAL   MODAL(L)   MODELESS   MODELESS (L)   %varname DISP=KANA   NOKANA ALARM= <u>NO</u>   YES   %varname ABBREV= <u>NONE</u>   KEYWORD   VALUE   BOTH FORMAT= <u>FLOW</u>   ASIS SMSG=short-message-text <i>message-text</i>	VARSUB	MSGMBR
MSGMBR	Yes	NAME=message-member-name CCSID=n WIDTH= <u>76</u>   68	COMMENTM SG	
NOTE	No	NOSKIP INDENT=n TYPE= <u>ET</u>   CH   CT   FP   LEF   LI   NT   PT   SAC   TEXT   WASL   WT COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname INTENS= <u>HIGH</u>   LOW   NON   %varname HILITE=USCORE   BLINK   REVERSE   %varname TEXT=alternate-note-heading <i>note-text</i>	HP PS RP	ATTENTION CAUTION DD FIG INFO LI LINES LP PD WARNING XMP



Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
NOTEL	Yes	COMPACT NOSKIP SPACE= <u>NO</u>   YES INDENT=n TYPE= <u>ET</u>   CH   CT   FP   LEF   LI   NT   PT   SAC   TEXT   WASL   WT COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname INTENS= <u>HIGH</u>   LOW   NON   %varname HILITE=USCORE   BLINK   REVERSE   %varname TEXT=alternate-note-heading	LI LP	ATTENTION CAUTION DD FIG INFO LI LINES LP PD WARNING XMP
NT	Yes	NOSKIP INDENT=n TYPE= <u>ET</u>   CH   CT   FP   LEF   LI   NT   PT   SAC   TEXT   WASL   WT COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname INTENS= <u>HIGH</u>   LOW   NON   %varname HILITE=USCORE   BLINK   REVERSE   %varname TEXT=alternate-note-heading <i>note-text</i>	DL FIG HP LINES OL P PARML PS RP SL UL XMP	ATTENTION CAUTION DD FIG INFO LI LINES LP PD WARNING XMP
OL	Yes	COMPACT NOSKIP SPACE= <u>NO</u>   YES INDENT=n TEXT=OL-heading-text	LI LP	ATTENTION CAUTION DD FIG INFO LI LINES LP NT PD WARNING XMP
P	No	COMPACT INTENSE=varname INDENT=n OFFSET=n SPACE= <u>NO</u>   YES <i>paragraph-text</i>	ATTENTION CAUTION HP PS RP WARNING	ATTENTION CAUTION DD FIG INFO LI LINES LP NT PD WARNING XMP

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
PANDEF	No	ID=pandef-id HELP=help-panel-name   %varname DEPTH=n   FIT WIDTH=n   FIT   %varname KEYLIST=key-list-name KEYLTYPE= <u>PRIVATE</u>   SHARED APPLID=application-id CCSID=n WINDOW= <u>YES</u>   NO WINTITLE=window-title APPTITLE=application-title PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname EXPAND=xy MERGESAREA= <u>NO</u>   YES ENTKEYTEXT=enter-key-text IMAPNAME=image-name   %varname IMAPROW=n   %varname IMAPCOL=n   %varname TMARGIN=n BMARGIN=n		

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
PANEL	Yes	NAME=panel-name HELP=help-panel-name   %varname PANDEF=pandef-id DEPTH= <u>22</u>   n   FIT WIDTH= <u>76</u>   n   FIT   %varname KEYLIST=key-list-name KEYLTYPE= <u>PRIVATE</u>   SHARED APPLID=application-id CURSOR=cursor-field CSRINDEX=index-value CSRPOS=position-value CCSID=n MENU PRIME TUTOR WINDOW= <u>YES</u>   NO WINTITLE=window-title APPTITLE=application-title PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname EXPAND=xy MSGLINE= <u>YES</u>   NO TITLINE= <u>YES</u>   NO CMDLINE= <u>YES</u>   NO ATTRUSE= <u>NO</u>   YES   ALL ENDATTR= <u>DEFAULT</u>   TEXT TYPE= <u>BOTH</u>   GUI   NOGUI SMSG=short-msg-fieldname LMSG=long-msg-fieldname ASIS ACTBAR MERGESAREA= <u>NO</u>   YES PANELSTMT= <u>YES</u>   NO ENTKEYTEXT=enter-key-text IMAPNAME=image-name   %varname IMAPROW=n   %varname IMAPCOL=n   %varname TMARGIN=n BMARGIN=n ERRORCHECK= <u>NO</u>   YES ZUP=zup-id ZCONT=zcont-id AUTONRET= <u>NO</u>   YES AUTOTCMD= <u>NO</u>   YES   PROC panel-title-text	AB AREA BOTINST CMDAREA COMMENT DA DIVIDER DTACOL DTAFLD GA GENERATE GRPHDR HP INFO LSTFLD PNLINST REGION SELFID SOURCE TEXTLINE TOPINST	

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
PARML	Yes	TSIZE= <u>10</u>   'S1 S2... Sn' BREAK= <u>ALL</u>   FIT   NONE COMPACT SKIP INDENT=n FORMAT=START   CENTER   END DIVEND= <u>NO</u>   YES SPLIT= <u>NO</u>   YES	PLDIV PT PTDIV PD	ATTENTION CAUTION DD FIG INFO LI LINES LP NT PD WARNING XMP
PD	No	<i>parameter-description</i>	DL FIG HP LINES NOTE NOTEL NT OL P PARML PS RP SL UL XMP	PARML
PDC	No	HELP= <u>NO</u>   YES   help-panel-name   *help-message-id   %varname   *%varname UNAVAIL=unavail-variable-name CHECKVAR=check-variable-name MATCH= <u>1</u>   match-string ACC1=key1 ACC2=key2 ACC3=key3 <i>pull-down-description-text</i>	ACTION COMMENT M SOURCE	ABC
PDSEP	No			PDC
PLDIV	No	TYPE= <u>NONE</u>   SOLID   DASH   TEXT GAP= <u>YES</u>   NO GUTTER= <u>1</u>   n FORMAT=START   CENTER   END <i>divider-text</i>	HP	PARML
PNLINST	No	COMPACT <i>instruction-text</i>	HP PS RP	AREA REGION PANEL

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
PS	Yes	VAR=point-and-shoot-variable-name   %varname VALUE=point-and-shoot-value   %varname   * CSRGRP= <u>NO</u>   YES   n DEPTH=n   %varname IMAPNAME=image-name   %varname IMAPNAMEP=image-namep   %varname PLACE= <u>ABOVE</u>   BELOW   LEFT   RIGHT   %varname <i>point-and-shoot-text</i>		ATTENTION BOTINST CAUTION CHOFLD CHOICE DD DDHD DT DTAFLD DTAFLDD DTHD FIG FIGCAP GRPHDR H2 H3 H4 LI LINES LP LSTCOL LSTGRP NOTE NT P PD PNLINST PT SELFLD TOPINST WARNING XMP
PT	No	FORMAT= <u>START</u>   CENTER   END NOSKIP SPLIT= <u>NO</u>   YES <i>parameter-term</i>	HP PS PTSEG RP	PARML
PTDIV	No			PARML
PTSEG	No			PT

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
REGION	Yes	DIR= <u>VERT</u>   HORIZ INDENT=n WIDTH=n   * DEPTH=n   * EXTEND= <u>OFF</u>   ON   FORCE ALIGN= <u>YES</u>   NO GRPBOX= <u>NO</u>   YES GRPWIDTH=n GRPBXVAR=variable-name GRPBXMAT= <u>1</u>   string LOCATION= <u>DEFAULT</u>   TITLE <i>group-box-title</i>	COMMENT DA DIVIDER DTACOL DTAFLD GA GENERATE GRPHDR INFO LSTFLD PNLINST REGION SELFLD SOURCE	AREA HELP PANEL REGION
RP	Yes	HELP= help-panel-name   help-message-id   %varname   *%varname <i>reference-phrase</i>		ATTENTION BOTINST CAUTION CHOFLD CHOICE DD DDHD DT DTAFLD DTAFLDD DTHD FIG FIGCAP GRPHDR H2 H3 H4 LI LINES LP LSTCOL LSTGRP NOTE NT P PD PNLINST PT SELFLD TOPINST WARNING XMP

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
SCRFLD	Yes	DISPLEN= n   %varname INDVAR=ind-var INDVAL='ind-chars' LINDVAR=lind-var LINDVAL='lind-char' RINDVAR=rind-var RINDVAL='rind-char' SINDVAR=sind-var SINDVAL='sind-chars' LCOLIND=lcol-var LCOLDISP= <u>NO</u>   YES RCOLIND=rcol-var RCOLDISP= <u>NO</u>   YES SCALE=scale-var SCROLL= <u>ON</u>   OFF   %varname FLDSPOS= <u>BELOW</u>   ABOVE	COMMENT SOURCE	DTAFLD LSTCOL

Table 21. Tag summary (continued)

Tag	End tag	Attributes	Nested tags	Used within
SELFLD	Yes	NAME=field-name HELP= <u>NO</u>   YES   help-panel-name   *help-message-id   %varname   *%varname TYPE= <u>SINGLE</u>   MULTI   MENU   MODEL   TUTOR PMTLOC= <u>ABOVE</u>   BEFORE PMTWIDTH=n   *   ** SELWIDTH=n   * ENTWIDTH= <u>2</u>   n   'e1 e2...en' REQUIRED= <u>NO</u>   YES MSG=message-identifier FCHOICE= <u>1</u>   0 AUTOTAB= <u>YES</u>   NO DEPTH=n   * EXTEND= <u>OFF</u>   ON   FORCE TRAIL='trail-var-1 trail-var-2 ... trail-var-n' CHOICECOLS= <u>1</u>   n CHOICEDEPTH=n   * CWIDTHS='w1 w2...wn' PAD=NULLS   USER   char   %varname PADC=NULLS   USER   char   %varname OUTLINE= <u>NONE</u>   L   R   O   U   BOX   %varname SELMSG=selfld-msg-identifier SELMSGU=selfld-msg-unavailable INIT= <u>YES</u>   NO   init-value VERIFY= <u>YES</u>   NO REFRESH= <u>YES</u>   NO SELFMT= <u>START</u>   END CHKBOX= <u>YES</u>   NO ZGUI= <u>YES</u>   NO CSRGRP= <u>NO</u>   YES   n TSIZE='s1 s2...sn' LISTTYPE=RADIO   LISTBOX   DDLIST   COMBO LISTREF=list-name LISTDEPTH=n DBALIGN= <u>YES</u>   NO   FIELD   FORCE NOSEL=no-selection-value SELDEFAULT=x PMTSKIP= <u>NO</u>   YES FLDTYPE= <u>CUA</u>   ISPF COLOR=WHITE   RED   BLUE   GREEN   PINK   YELLOW   TURQ   %varname INTENS= <u>HIGH</u>   LOW   NON   %varname HILITE=USCORE   BLINK   REVERSE   %varname SELCHECK= <u>NO</u>   YES VARDCL= <u>YES</u>   NO <i>field-prompt-text</i>	CHDIV CHOICE COMMENT HP PS RP SOURCE	AREA DTACOL PANEL REGION



Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
SL	Yes	COMPACT NOSKIP SPACE= <u>NO</u>   YES INDENT=n TEXT='SL-heading-text'	LI LP	ATTENTION CAUTION DD FIG INFO LI LINES LP NT PD WARNING XMP
SOURCE	Yes	TYPE= <u>PROC</u>   REINIT   INIT   ABCINIT   ABCPROC <i>text</i>		ABC AREA CHOICE DA DTACOL DTAFLD HELP LSTCOL LSTFLD LSTGRP PANEL PDC REGION SELFELD
T	No			CMD
TEXTLINE	Yes		DTAFLD TEXTSEG	HELP PANEL
TEXTSEG	No	EXPAND=AFTER   BEFORE   BOTH WIDTH=n <i>text</i>	HP	TEXTLINE
TOPINST	No	COMPACT <i>instruction-text</i>	HP PS RP	PANEL

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
UL	Yes	COMPACT NOSKIP SPACE= <u>NO</u>   YES INDENT=n TEXT=UL-heading-text	LI LP	ATTENTION CAUTION DD FIG INFO LI LINES LP NT PD WARNING XMP
VARCLASS	No	NAME=variable-class-name TYPE='CHAR maximum length' 'DBCS maximum length' 'MIXED maximum length' 'ANY maximum length' 'EBCDIC maximum length' '%varname maximum length' ITIME STDTIME IDATE STDDATE JDATE JSTD 'VMASK maximum-length' 'NUMERIC total-digits <u>0</u>   fractional-digits' MSG=message-identifier	CHECKL XLATL	
VARDCL	No	NAME=name VARCLASS=variable-class-name		VARLIST
VARLIST	Yes		VARDCL	
VARSUB	No	VAR=variable-name		MSG
WARNING	Yes	<i>text</i>	DL FIG HP LINES NOTE NOTEL NT OL P PARML PS RP SL UL XMP	LI LP P

Table 21. Tag summary (continued)				
Tag	End tag	Attributes	Nested tags	Used within
XLATI	No	VALUE=internal-value <i>displayed-value</i>	LIT	XLATL
XLATL	Yes	FORMAT= <u>NONE</u>   UPPER TRUNC=n   char MSG=message-identifier	XLATI	VARCLASS
XMP	Yes	NOSKIP <i>text</i>	DL HP NOTE NOTEL NT OL P PARML PS RP SL UL	ATTENTION CAUTION DD FIG INFO LI LINES LP NT PD WARNING



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## **Policy for unsupported hardware**

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Various z/OS elements, such as DFSMSdfp, JES2, JES3, and MVS, contain code that supports specific hardware servers or devices. In some cases, this device-related element support remains in the product even after the hardware devices pass their announced End of Service date. z/OS may continue to service element code; however, it will not provide service related to unsupported hardware devices. Software problems related to these devices will not be accepted for service, and current service activity will cease if a problem is determined to be associated with out-of-support devices. In such cases, fixes will not be issued.

## **Minimum supported hardware**

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The minimum supported hardware for z/OS releases identified in z/OS announcements can subsequently change when service for particular servers or devices is withdrawn. Likewise, the levels of other software products supported on a particular release of z/OS are subject to the service support lifecycle of those

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products. Therefore, z/OS and its product publications (for example, panels, samples, messages, and product documentation) can include references to hardware and software that is no longer supported.

- For information about software support lifecycle, see: [IBM Lifecycle Support for z/OS \(www.ibm.com/software/support/systemsz/lifecycle\)](http://www.ibm.com/software/support/systemsz/lifecycle)
- For information about currently-supported IBM hardware, contact your IBM representative.

## Programming Interface Information

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This publication primarily documents information that is NOT intended to be used as Programming Interfaces of ISPF.

This publication also documents intended Programming Interfaces that allow the customer to write programs to obtain the services of ISPF. This information is identified where it occurs, either by an introductory statement to a chapter or section or by the following marking:

```
+-----Programming Interface information-----+
+-----End of Programming Interface information-----+
```

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