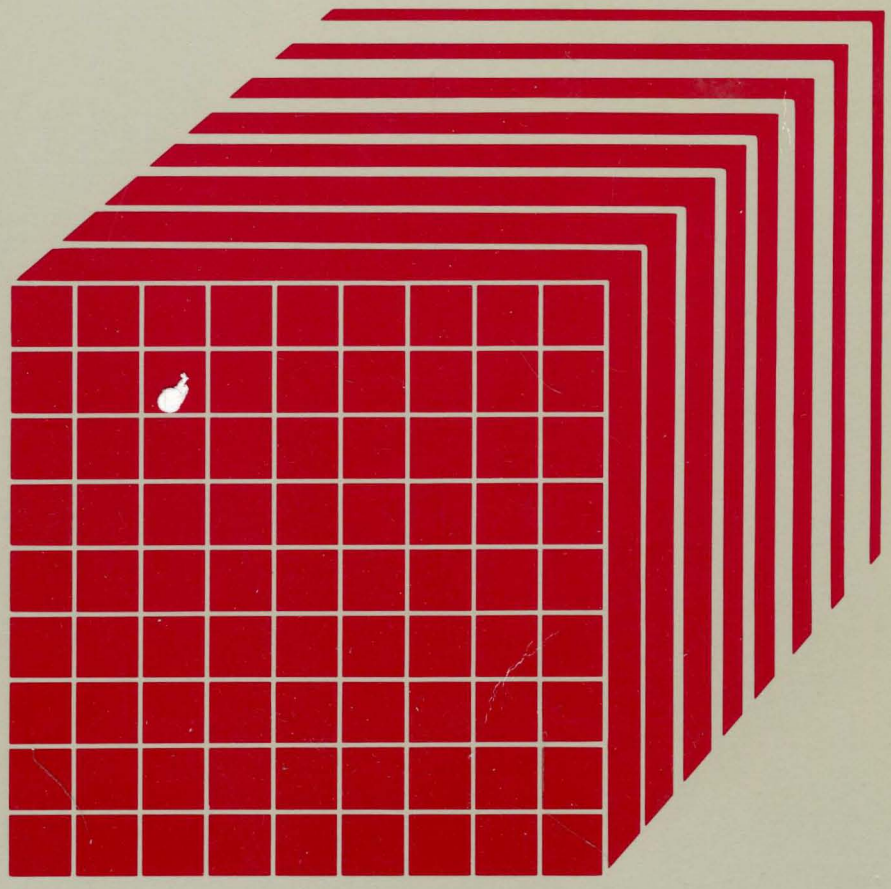
IBM

Virtual Machine/
System Product

System Product Editor Command and Macro Reference

Release 3



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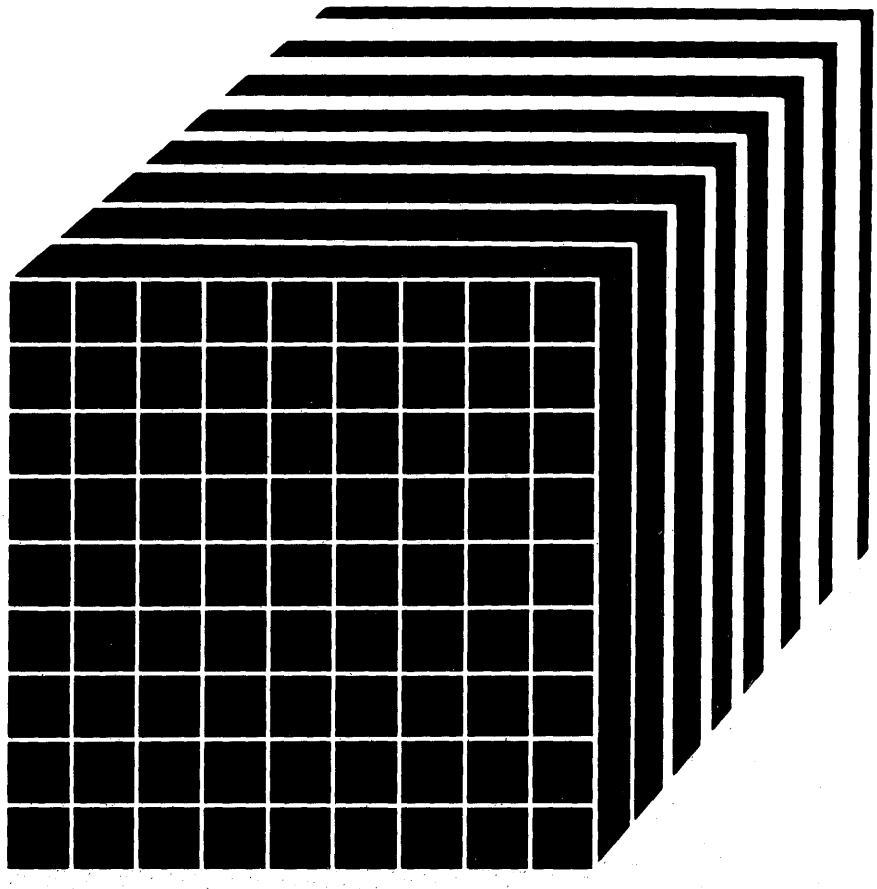

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Third Edition (September 1983)

This edition, SC24-5221-2, is a major revision of SC24-5221-1, and applies to Release 3 Virtual Machine/System Product (VM/SP), program number 5664-167, until otherwise indicated in new editions or Technical Newsletters. Changes are made periodically to the information herein; before using this publication in connection with the operation of IBM systems, consult the latest *IBM System/370 and 4300 Processors Bibliography,* GC20-0001, for the editions that are applicable and current.

Changes or additions to the text and illustrations are indicated by a vertical line to the left of the change.

Summary of Changes

For a detailed list of changes, see page iii.

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Summary of Changes

Summary of Changes
for SC24-5221-2
VM/SP Release 3

The XEDIT enhancements described in this document provide new or improved support in the following areas:

- Prefix Macro Support
- Selective Line Editing
- Screen Control
- Extended Data Manipulation
- Enhancements (Miscellaneous).

New or extended subcommands under each area include:

Prefix Macro Support (new)

```
X (Exclude)
LPREFIX
SET PENDING
< (Shift Left)
> (Shift Right)
S (Show)
```

Selective Line Editing (new)

```
ALL
SET DISPLAY
SET SCOPE
SET SELECT
SET SHADOW
```

Screen Control

```
CURSOR
SET CMDLINE
SET COLOR (new)
SET CTLCHAR
SET CURLINE
SET MSGLINE (new)
SET RESERVED
SET SCALE
SET SCREEN
SET TABLINE
```

Extended Data Manipulation (new)

```
Logical AND Operator for targets
MERGE
SET FULLREAD
SET SPILL
SET TRANSLAT
```

Enhancements (Miscellaneous)

```
EXTRACT
Horizontal TOL and EOL
LINEND in synonyms
Protected FILE and SAVE
```

```
QUIT/PURGE from a macro
Removal of limitation of four strings in targets
REFRESH (new)
RGTLEFT (new)
SCHANGE
SET ALT (new)
SET ENTER (new)
SET LASTLORC (new)
SET PA (new)
SET PF
SET POINT (Ability to set multiple names per line)
SET PREFIX NULLS
SET REMOTE (new)
SET SIDCODE (new)
SET STAY
SPLIT and JOIN [ALigned]
SPLTJOIN (new)
UNTIL and NOMSG options on XEDIT and LOAD
WRAP warning (new)
XEDIT filetype defaults
```

New initial PF Key settings for PF10, PF11, and PF12
A new appendix has been added: Effects of Selective Line Editing Subcommands.

Summary of Changes
for SC24-5221-1
as updated by SN24-5715
for VM/SP Release 2

New: The SET CTLCHAR subcommand is added, along with the ability to QUERY/TRANSFER CTLCHAR. The TAG/NOTAG operand is added to the READ subcommand. Filetypes NAMES, NETLOG, and NOTEBOOK are assigned default settings.

Summary of Changes
for SC24-5221-1
VM/SP Release 1

This edition reflects minor technical changes and editorial corrections. In addition, the NOCLEAR option has been added to the XEDIT command.

Preface

Use this publication as a reference manual; it contains all of the command formats, syntax rules, and operand and option descriptions for the XEDIT command and XEDIT subcommands and macros. For tutorial information on using the editor, refer to the *Virtual Machine/System Product: System Product Editor User's Guide,* which also contains information on using the System Product Interpreter, which processes programs written in the Restructured Extended Executor (REXX) language, for XEDIT macros. You should be familiar with the user's guide before you attempt to use this reference book. This publication has the following sections:

"Section 1: Rules and Conventions" tells you how to enter the XEDIT command and its subcommands and macros. It lists the notation conventions used in this book, so that you can interpret the command format descriptions starting in Section 2.

"Section 2: The XEDIT Command" contains the format description, and operand and option list for the XEDIT command, which is used to invoke the editor.

"Section 3: XEDIT Subcommands and Macros" describes the subcommands and macros available in the environment of the editor. Each subcommand and macro description contains usage notes and/or examples, summarizes the types of responses you might receive, and lists the error messages and return codes.

"Section 4: XEDIT Prefix Subcommands and Macros" describes the prefix subcommands and macros, which are entered directly in an area called the prefix area of any line in a file.

This publication also has the following appendixes:

"Appendix A: Filetype Defaults" lists the special filetypes that are recognized by the editor and indicates the default settings that the editor supplies for logical record length, logical tabs, truncation, and so on.

"Appendix B: Effects of Selective Line Editing Subcommands" details the effects of SET SELECT, SET DISPLAY, SET SCOPE, and SET SHADOW on other XEDIT subcommands.

"Appendix C: CMS Editor (EDIT) Migration Mode" explains how to edit a file in EDIT migration mode.

"Appendix D: Migrating from EDIT to XEDIT" lists the EDIT subcommands and their XEDIT counterparts.

"Appendix E: Optimizing Macros" describes how to improve the performance of macros and lists those XEDIT macros that have been optimized.

"Appendix F: A Summary of XEDIT Subcommands and Macros" lists all the XEDIT subcommands and macros, their abbreviations, and a brief description of functions.

Prerequisite Publications:

Virtual Machine/System Product System Product Editor User's Guide, SC24-5220

Corequisite Publications:

Virtual Machine/System Product *EXEC 2 Reference,* SC24-5219

Virtual Machine/System Product *CMS User's Guide,* SC19-6210

Virtual Machine/System Product *System Product Interpreter User's Guide,* SC24-5238

Virtual Machine/System Product *System Product Interpreter Reference,* SC24-5239

Virtual Machine/System Product *System Product Interpreter Reference Summary,* SX20-5126

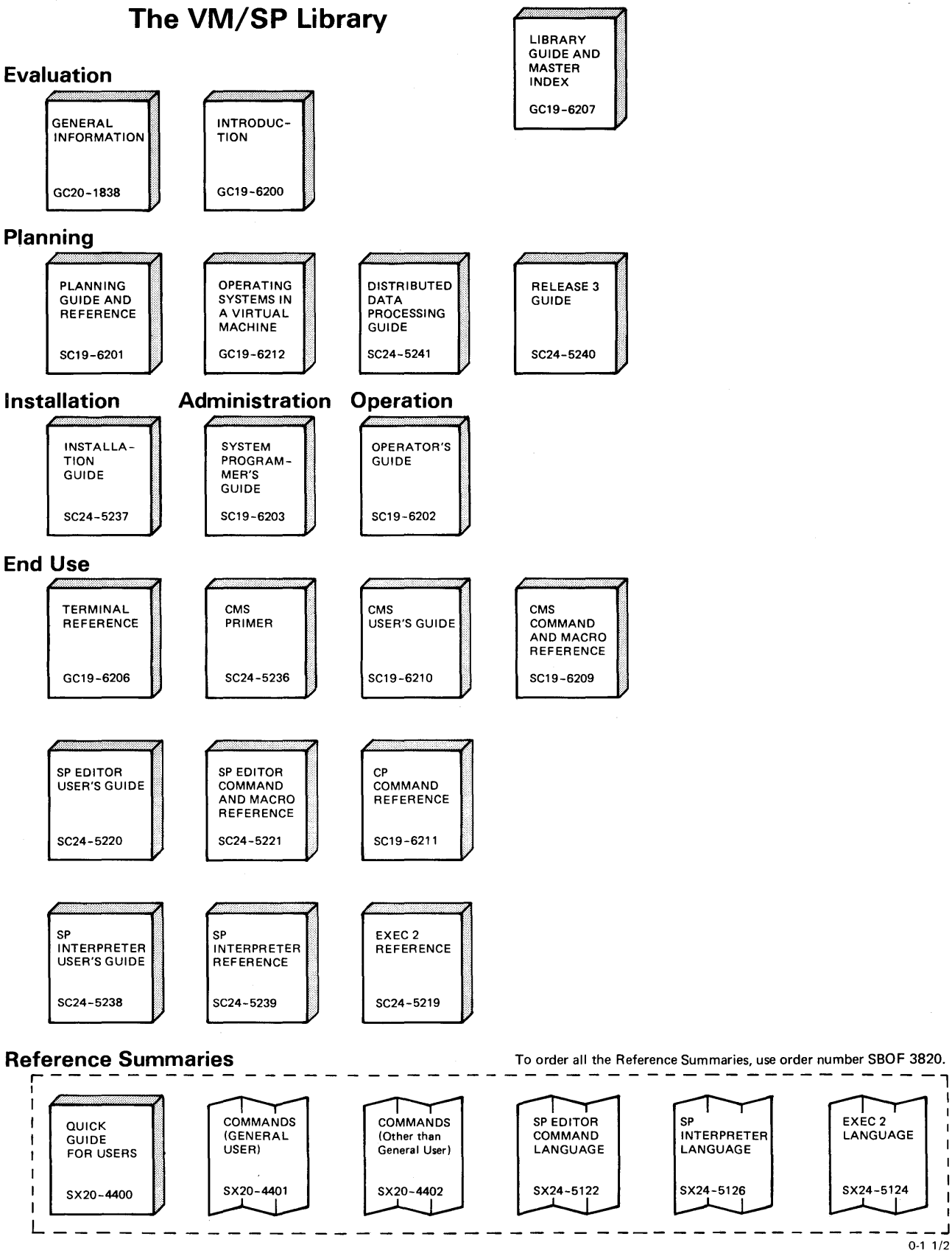

Figure 0-1 (Part 1 of 2). The Virtual Machine/System Product Library

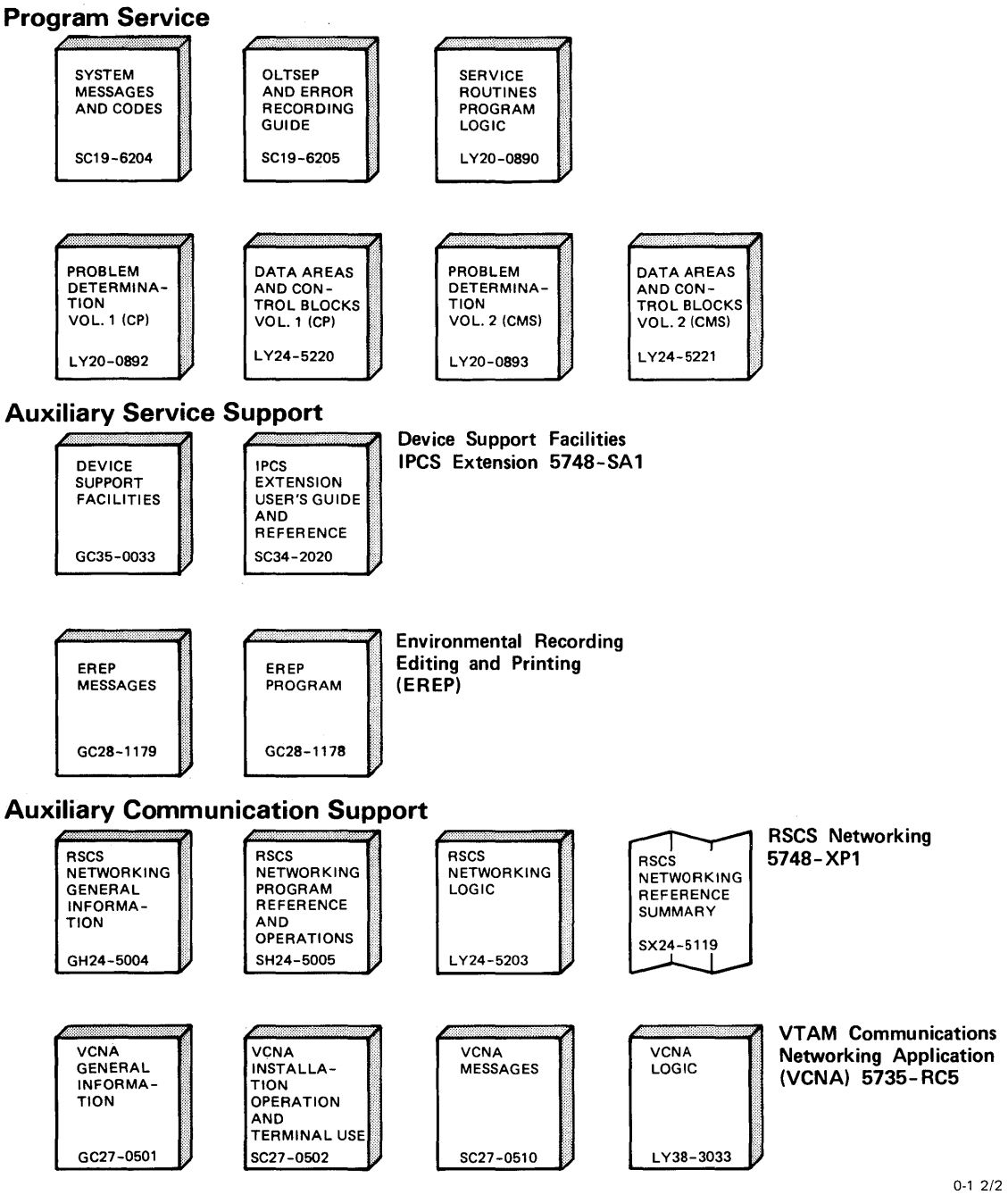

Figure 0-1 (Part 2 of 2). The Virtual Machine/System Product Library

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Section 1. Rules and Conventions

XEDIT subcommands and macros follow the same rules and conventions. For purposes of this discussion, "subcommand" refers to both XEDIT subcommands and XEDIT macros.

The general format of XEDIT subcommands is:

subcommand name	operands...

At least one blank must separate the subcommand name and the operands, unless the operand is a number or a special character. For example, NEXT8 and NEXT 8 are equivalent.

At least one blank must be used to separate each operand in the command line unless otherwise indicated.

The maximum length of an XEDIT subcommand issued from an EXEC procedure or from an XEDIT macro is 256 characters.

The Subcommand Name

The subcommand name is an alphabetic symbol of one to eight characters. In general, the names are based on verbs that describe the function you want the editor to perform. For example, the ADD subcommand adds lines to the file.

The Subcommand Operands

The subcommand operands may be either keyword or positional or a combination of both. The operands specify the information on which the editor operates when it performs the subcommand function. The operands must be entered in the order in which they appear in the command format boxes. The maximum length of a string operand is 160 characters.

One of the most widely-used operands in XEDIT is the "target" operand, which provides various ways to identify a line to the editor. The concept of a target is described in the LOCATE subcommand in this book and in the publication *VM/SP System Product Editor User's Guide.* You should become familiar with targets before attempting to use XEDIT subcommands that require target operands.

Character Set Usage

XEDIT subcommands may be entered using a combination of characters from six different character sets. The contents of each of the character sets is shown in Figure 1-1.

Character Set	Names	Symbols
Separator	Blank	
National	Dollar Sign Pound Sign At Sign	$ # @
Alphabetic	Uppercase Lowercase	A - Z a - z
Numeric	Numeric	0 - 9
Alphameric	National Alphabetic	$, #, @ A - Z a - z
	Numeric	0 - 9
Special		All other characters

Figure 1-1. Character Sets and Their Contents

Notation Conventions

The notation used to define the command syntax in this publication is:

- Abbreviations

  Where an abbreviation of a subcommand name is permitted, the shortest acceptable version of the name is represented by uppercase letters. (However, the subcommands can be entered on the terminal in any combination of uppercase and lowercase letters.) For example, the subcommand

  ```
  DELete
  ```

  may be specified as DEL, DELE, DELET, or DELETE.

  Operands are represented in the same way. When an abbreviation is permitted, the shortest acceptable version of the operand is represented by uppercase letters in the subcommand format box. If no minimum abbreviation is shown, the entire word (represented by uppercase letters) must be entered.

- The following symbols are used to define the subcommand format and should never be typed when the actual subcommand is entered.

underscore	_
braces	{ }
brackets	[ ]
ellipsis	...

- Uppercase letters and the following symbols should be entered as specified in the format box.

asterisk	*
comma	,
equal sign	=
parentheses	( )
period	.
colon	:

- Lowercase letters, words, and symbols that appear in the subcommand format box represent variables for which specific information must be substituted when the subcommand is entered. For example, "*fn ft fm*" indicates that a file identifier such as "MYFILE SCRIPT A1" should be entered.

- Brackets around a single operand means the operand is optional.

  FILE [*fn*]

  The "*fn*" operand is optional.

  FILE *fn*

  The "*fn*" operand *must* be entered.

- Choices are represented in the format boxes either by stacking the operands or by separating the operands with a vertical bar (|). For example,

  ```
  A
  B  or  A|B|C
  C
  ```

  indicates that you must specify either A, B, or C.

- The use of brackets denotes choices, one of which *may* be selected. For example,

  ```
  [ A ]
  [ B ] or [A|B|C]
  [ C ]
  ```

  indicates that you may enter A, B, or C, or you may omit the operand.

- An underscored operand represents a default. If the operand is omitted, the editor automatically supplies the operand that is underlined. For example,

  ```
  [ A ]
  [ B ]
  [ C ]
  ```

  If no operand is specified, B is assumed.

- An ellipsis indicates that the preceding operand may be repeated successively. For example,

  ```
  A
  B  ...
  C
  ```

  indicates that you must select A, B, or C one time and that you may specify one of the three more than once in succession, for example,

  A B C A

Section 2. The XEDIT Command

Use the CMS command XEDIT to invoke the editor to create, modify, and manipulate CMS disk files. Once the editor has been invoked, you may execute XEDIT subcommands and use the System Product Interpreter or EXEC 2 macro facility.

You can return control to the CMS environment by issuing the XEDIT subcommand FILE or QUIT.

The format of the XEDIT command is:

Xedit	[fn[ft[fm]]][(options...[])] Options: [Width nn] [NOSCreen] [PROFile macroname] [NOPROFil] [NOCLear] [NOMsg] Options valid only in update mode: [Update|NOUpdate] [Seq8|NOSeq8] [Ctl fn1|NOCtl] [Merge] [UNtil filetype] [Incr nn] [SIDcode string]

where:

`fn ft`
: are the filename and the filetype of the file to be edited. If they are not specified here, they must be provided in the LOAD subcommand as part of the profile.

`fm`
: is the filemode of the file to be edited, indicating the disk on which the file resides. The editor determines the filemode of the edited file as follows:

- Editing existing files.

  When the filemode is specified, that disk and its extensions are searched. If the filemode is not specified or is specified as an asterisk (*), all accessed disks are searched for the specified file.

- Creating new files.

  If the filemode is not specified, the editor assumes a filemode of A1.

Options:

`Width nn`
defines the amount of virtual storage used to contain one line of the file. If the value specified is too small, certain file lines may be truncated.

If not specified here, WIDTH may be defined in the LOAD subcommand as a part of the profile. If WIDTH is not specified in either the XEDIT command or the LOAD subcommand, the default is the larger of the following:

- the logical record length (LRECL) of the file
- the default logical record length associated with the filetype.

`NOSCreen`
forces a 3270 display terminal into line (typewriter) mode.

`PROFile macroname`
If the specified macro exists on one of the accessed disks, the editor executes it as the first subcommand.

If the specified macro is not found on an accessed CMS disk, an error message is displayed.

If this option is not specified but a macro with a macro name of PROFILE exists, the editor executes it.

In all cases, the profile macro must have a filetype of XEDIT.

`NOPROFil`
forces the editor not to execute the default PROFILE macro.

`NOCLear`
specifies that the screen is not cleared when the editor gets control. Instead, the screen is placed in a MORE... (waiting) status. Any messages remain on the screen until the CLEAR key is pressed. This option is useful when the XEDIT command is issued from a macro that displays messages.

`NOMsg`
enters a file with a default of SET MSGMODE OFF.

The following options are meaningful only if XEDIT is to be used in update mode:

`Update`
The editor searches all accessed CMS disks for a file with a filename of fn and a filetype of UPDATE. If the file exists, the editor applies the update statements before displaying the file to be edited. Each new modification made by the user is added to the existing UPDATE file. The original source file is *not* modified.

If the file does not exist, the editor creates a new UPDATE file to contain modifications made by the user.

`NOUpdate`
specifies that the editor is to apply no update statements (even if UPDATE is specified in the LOAD subcommand in the profile).

`Seq8`
specifies that the entire sequence field (columns 73-80) contains an eight-digit sequence number in every record of the file to be edited. The SEQ8 option automatically forces the UPDATE option. SEQ8 is the default value.

`NOSeq8`
specifies that columns 73-75 contain a three-character label field, and that the sequence number is a five-digit number in columns 76-80.

The NOSEQ8 option forces the UPDATE option.

`Ctl fn1`
specifies that "fn1 CNTRL" is an update control file that controls the application of multiple update files to the file to be edited. (See the CMS UPDATE command in the publication *VM/SP CMS Command and Macro Reference* for more information.)

This option automatically forces the UPDATE and SEQ8 options.

`NOCtl`
specifies that the editor is not to use the control file (even if it is specified in the LOAD subcommand in the profile).

`Merge`
specifies that all the updates made through the control file and all the changes made while editing will be written into the file whose name is defined by the latest update level (that is, the most recently applied UPDATE file in a control file). This option forces the UPDATE option.

`UNtil filetype`
specifies the filetype of the last update to be applied to the file. Changes are applied to the file being edited from all filetypes in the control file, up to and including the filetype specified in the UNTIL option.

Filetypes of update files listed in the control file or of update files listed in an auxiliary control file can be specified with the UNTIL option. AUX filetypes (AUXxxxxx) cannot be specified with the UNTIL option.

The UNTIL option forces the UPDATE option.

`Incr nn`
When inserting new lines in an update file, the editor automatically computes the serialization; the INCR option forces a minimum increment between two adjacent lines. If this option is not specified the minimum increment is one (1). This option forces the UPDATE option.

`SIDcode string`
specifies a string that the editor inserts in every line of an update file, whether the update file is being created or is an existing file. The editor inserts the specified string in columns 64-71 and pads with blanks, if necessary. (Any data in columns 64-71 is overlaid.) This option forces the UPDATE option.

Usage Notes:

1. For the PROFILE, CTL, SIDCODE, INCR, UNTIL, and WIDTH options, the operand must be specified; otherwise, the next option will be interpreted as its operand. For example, in the "PROFILE macroname" option, "macroname" must be specified; if it is not, the next option will be interpreted as the operand "macroname."

2. Once the XEDIT *command* has been executed, the XEDIT *subcommand* can be used to edit and display multiple files simultaneously (see the XEDIT subcommand).

3. You can also call the editor recursively (using "CMS XEDIT...," for example). This ability is particularly useful when applications are developed using the editor and its macro facilities to interface with the user, for example, HELP.

4. The editor is kept in virtual storage as part of the CMS nucleus shared segment; the CMS user area is unused. As a result, assuming a large enough virtual machine, any CMS or CP command may be issued directly from the editor environment itself (if a SET IMPCMSCP subcommand is in effect).

5. When the PROFILE macro is invoked by an XEDIT command, everything following the command name XEDIT is assigned to the argument string that is passed to the PROFILE macro.

   The editor does not examine any parameters that follow a closing right parenthesis on the XEDIT command.

6. When you issue an XEDIT command for a variable-format file, trailing blanks are removed when the file is filed (or saved).

7. Comment control records are deleted from an update file whenever an update file is applied to the original source file during an editing session, and a FILE or SAVE subcommand is issued.

Responses:

The following messages are displayed only if you are using XEDIT in update mode:

```
178I UPDATING 'fn ft fm'.
     APPLYING 'fn ft fm'
              .
              .
              .
180W MISSING PTF FILE 'fn ft fm'.
```

Error Messages:

```
002E FILE 'fn ft fm' NOT FOUND.,RC=28
003E INVALID OPTION 'option'.,RC=24
024E FILE 'XEDTEMP CMSUT1 A1' ALREADY EXISTS.,RC=28
029E INVALID PARAMETER 'parameter' IN THE OPTION
     'option' FIELD.,RC=24
048E INVALID MODE 'mode'.,RC=24
054E INCOMPLETE FILEID SPECIFIED.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
065E 'option' OPTION SPECIFIED TWICE.,RC=24
066E 'option' AND 'option' ARE CONFLICTING OPTIONS.',RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
070E INVALID PARAMETER 'parameter'.,RC=24
229E UNSUPPORTED OS DATA SET.,RC=80,81,82,83
590E DATA SET TOO LARGE.,RC=88
104S ERROR 'nn' READING FILE 'fn ft fm'
     FROM DISK.,RC=100
132S FILE 'fn ft fm' TOO LARGE.,RC=88
```

Error Messages with UPDATE Options:

```
007E FILE 'fn ft fm' IS NOT FIXED, 80 CHAR.
     RECORDS.,RC=32
179E MISSING OR DUPLICATE 'MACS' CARD IN
     CONTROL FILE 'fn ft fm'
183E INVALID {CONTROL/AUX} FILE CONTROL CARD.,RC=32
597E UNABLE TO MERGE UPDATES CONTAINING
     './ S' CARDS.,RC=32
174W SEQUENCE ERROR INTRODUCED IN OUTPUT FILE:
     '........' TO '........'. ',RC=32
184W './ S' NOT FIRST CARD IN UPDATE FILE -- IGNORED
185W NON NUMERIC CHARACTER IN SEQUENCE
     FIELD '........'.,RC=32
186W SEQUENCE NUMBER NOT FOUND:,RC=32
207W INVALID UPDATE FILE CONTROL CARD.,RC=32
210W INPUT FILE SEQUENCE ERROR '........'
     TO '........'.,RC=32
570W UPDATE 'updname' SPECIFIED IN THE
     'UNTIL' OPTION FIELD NOT FOUND
```

Return Codes:

- 0 Normal
- 6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
- 20 Invalid character in filename or filetype
- 24 Invalid parameters, or options
- 28 Source file not found (UPDATE MODE) or specified PROFILE macro does not exist, or file XEDTEMP CMSUT1 already exists
- 32 Error during updating process
- 36 Corresponding disk not accessed
- 88 File is too large and does not fit into storage
- 100 Error reading the file into storage

Section 3. XEDIT Subcommands and Macros

This section describes the formats and operands of the XEDIT subcommands and macros. XEDIT subcommands and macros are valid only in the environment of the editor, which is invoked with the CMS command XEDIT, described in "Section 2: The XEDIT Command."

The editor has two modes of operation: edit mode and input mode. Whenever the XEDIT command is issued, edit mode is entered; when the INPUT or REPLACE subcommands are issued with no operands, or when the POWERINP subcommand is issued, input mode is entered.

For tutorial information on how to use the editor, refer to the publication *VM/SP System Product Editor User's Guide.*

The XEDIT subcommands and macros are listed in alphabetical order for easy reference. Each subcommand and macro description includes the format and description of operands and, where applicable, usage notes, notes for macro writers, responses, error messages and return codes, and examples.

ADD

Use the ADD subcommand to insert blank lines immediately after the current line.

The format of the ADD subcommand is:

Add	[n|1]

where:

n is the number of blank lines you want to add. If you omit n, one line is added.

Usage Notes:

1. You can enter data in the newly-added lines at any time during the editing session. These blank lines remain in the file after it is saved or filed.

2. If the current line is the END OF FILE line, the lines are added preceding this line.

Responses:

If SET IMAGE ON is in effect, the cursor moves to the first tab column of the first line that was added. Otherwise, it is placed in column 1.

By default, the prefix areas associated with the added lines are highlighted. For more information, refer to SET COLOR PENDING.

Each line that is added is pre-filled with the current mask (see SET MASK).

The line pointer remains unchanged.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE.,RC=3
543E INVALID NUMBER : xxxxxxxx,RC=5
557S NO MORE STORAGE TO INSERT LINES.,RC=4
```

Return Codes:

0 Normal
3 Terminal is not a display
4 Insufficient storage to add lines
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples: Figure 3-1 is a before-and-after example of the ADD subcommand.

```
ANIMALS  FACTS   A1  V 80  TRUNC=80 SIZE=28 LINE=18 COL=1 ALT=0

===== A LIZARD OF CENTRAL AMERICA CALLED THE BASILISK CAN RUN
===== ACROSS WATER.
===== OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
===== LEARNING.
===== THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
===== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS. IT FEEDS ON THE GLUE OF THE
===== BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
===== THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
===== HAS ON THE SHARKS.
===== A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
===== FINGER DRAWN ACROSS AN INFLATED BALLOON.
===== STINGAREES, FISH FOUND IN AUSTRALIA, CAN WEIGH UP TO 800 POUNDS
===== AND HAVE THE MOST POTENT VENOM OF ALL FISH.
===== OSTRICHES CAN KICK LIKE A MULE, IMITATE A LION'S ROAR, AND HISS LIKE
===== A SNAKE.
====> ADD 5
                                                          X E D I T  1 FILE
```

```
ANIMALS  FACTS   A1  V 80  TRUNC=80 SIZE=33 LINE=18 COL=1 ALT=1

===== A LIZARD OF CENTRAL AMERICA CALLED THE BASILISK CAN RUN
===== ACROSS WATER.
===== OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
===== LEARNING.
===== THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
===== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS. IT FEEDS ON THE GLUE OF THE
===== BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====
=====
=====
=====
=====
===== ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
===== THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
===== HAS ON THE SHARKS.
===== A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
====>
                                                          X E D I T  1 FILE
```

Figure 3-1. The ADD Subcommand - Before and After

ALL (Macro)

Use the ALL macro to display a specified collection of lines for editing, while excluding others from display. The collection is specified by a target that is repeatedly applied to the entire file, starting at the top of the file (or range).

The format of the ALL macro is:

ALL	[rtarget]

where:

rtarget
: is a target that defines which lines are displayed. The target is "repeated," that is, it is applied from the top of the file (or range) for as many times as necessary to collect all the lines in the file that correspond to the specified rtarget. For example, ALL/KEN/ displays all lines in the file that contain the string "KEN." If no rtarget is specified, ALL displays the entire file.

  An rtarget may be specified as an absolute line number, a relative displacement, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide*.

Usage Notes:

1. ALL modifies the SELECT setting of all of the lines in the file and overrides the DISPLAY and SCOPE settings. ALL sets the selection level of all selected lines to 1 and all non-selected lines are set to 0. After ALL is specified, the DISPLAY setting is set to 1 1 and SCOPE is set equal to DISPLAY. (Refer to SET SELECT, SET DISPLAY, and SET SCOPE in this publication.)

2. ALL does not change the SHADOW setting. (Refer to SET SHADOW in this publication.) The example below illustrates how ALL performs when SET SHADOW is "ON" (the default). When SET SHADOW is "OFF," then no notice is displayed to indicate that lines are not displayed.

3. If you specify ALL (with no rtarget) then all lines in the file are displayed. All lines in the file are set to a selection level of 0 and DISPLAY is set to 0 0.

Error Messages:

```
520E  INVALID OPERAND :  operand,RC=5
546E  TARGET NOT FOUND,RC=2
698E  TARGET STRING TOO LONG, UNABLE TO PARSE THE ENTIRE
      TARGET STRING,RC=5
```

Return Codes:

0 Normal
2 Target not found
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples: Figure 3-2 is an example of the ALL Macro.

Elbert had a record collection for which he established a "names" file. He used the following organization scheme:

```
NICK      O for opera
          C for classical

COMPOSER  Name of Composer

NAME      Name of Composition

ADDRESS   C or O, depending on type,
          followed by the assigned number
          on the jacket.
```

```
 ELBERT NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=8 COL=1 ALT=0

===== * * * TOP OF FILE * * *
===== :nick.O          :Composer.Puccini:name.LaBoheme
=====                  :addr.O1
=====
===== :nick.C          :Composer.Grieg:name.Peer Gynt Suites
=====                  :addr.C1
=====
===== :nick.C          :Composer.Ravel:name.Piano Concerto in G Major
=====                  :addr.C4
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====
===== :nick.C          :Composer.Offenbach:name.Les Bavards
=====                  :addr.C3
=====
===== :nick.O          :Composer.Verdi:name.Aida
=====                  :addr.O2
=====
===== :nick.C          :Composer.Mozart:name.Eine kleine Nachtmusik
=====                  :addr.C2
====> all/nick.C/
                                                        X E D I T   1 FILE
```

Using the ALL macro to select and display all classical records in Elbert's collection

Figure 3-2 (Part 1 of 5). The ALL Macro

```
ELBERT NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=4 COL=1 ALT=0

SHADOW IS ON

===== * * * TOP OF FILE * * *
===== ------------------- 3 line(s) not displayed -------------------
===== :nick.C        :Composer.Grieg:name.Peer Gynt Suites
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ------------------- 2 line(s) not displayed -------------------
===== :nick.C        :Composer.Ravel:name.Piano Concerto in G Major
===== ------------------- 2 line(s) not displayed -------------------
===== :nick.C        :Composer.Offenbach:name.Les Bavards
===== ------------------- 5 line(s) not displayed -------------------
===== :nick.C        :Composer.Mozart:name.Eine kleine Nachtmusik
===== ------------------- 1 line(s) not displayed -------------------
===== * * * END OF FILE * * *

====>                                                   X E D I T  1 FILE
```

Resulting file displaying all classical records

Figure 3-2 (Part 2 of 5). The ALL Macro

```
ELBERT NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=4 COL=1 ALT=0

===== * * * TOP OF FILE * * *
===== ------------------- 3 line(s) not displayed -------------------
===== :nick.C        :Composer.Grieg:name.Peer Gynt Suites
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ------------------- 2 line(s) not displayed -------------------
===== :nick.C        :Composer.Ravel:name.Piano Concerto in G Major
===== ------------------- 2 line(s) not displayed -------------------
===== :nick.C        :Composer.Offenbach:name.Les Bavards
===== ------------------- 5 line(s) not displayed -------------------
===== :nick.C        :Composer.Mozart:name.Eine kleine Nachtmusik
===== ------------------- 1 line(s) not displayed -------------------
===== * * * END OF FILE * * *

====> all/nick.O/                                       X E D I T  1 FILE
```

Using the ALL macro to select and display all operas in Elbert's collection

Figure 3-2 (Part 3 of 5). The ALL Macro

```
 ELBERT NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=1 COL=1 ALT=0




=====  * * *  TOP OF FILE  * * *
=====  :nick.O         :Composer.Puccini:name.LaBoheme
       |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====  --------------------  11  line(s) not displayed  --------------------
=====  :nick.O         :Composer.Verdi:name.Aida
=====  --------------------  4  line(s) not displayed  --------------------
=====  * * *  END OF FILE  * * *



====>  set shadow off
                                                          X E D I T  1 FILE
```

Resulting file displaying all opera records

Figure 3-2 (Part 4 of 5). The ALL Macro

```
 ELBERT NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=1 COL=1 ALT=0




=====  * * *  TOP OF FILE  * * *
=====  :nick.O         :Composer.Puccini:name.LaBoheme
       |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====  :nick.O         :Composer.Verdi:name.Aida
=====  * * *  END OF FILE  * * *




====>
                                                          X E D I T  1 FILE
```

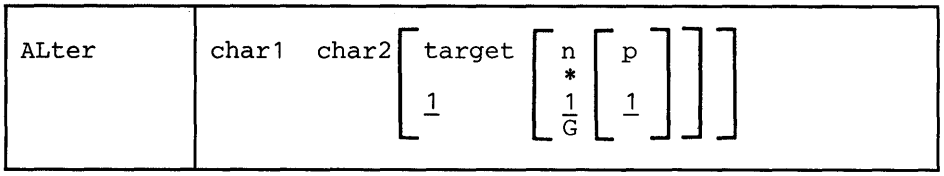
File, displaying all opera records, with shadow lines set off

Figure 3-2 (Part 5 of 5). The ALL Macro

ALTER (Macro)

Use the ALTER macro to change a single character to another character, one that may not be available on your terminal keyboard. The ALTER macro allows you to reference characters by their hexadecimal values.

The format of the ALTER macro is:



where:

`char1`
is the character to be altered. It may be specified either as a single character or in hexadecimal notation (00 through FF).

`char2`
specifies the character to which char1 is to be altered. It may be specified either as a single character or in hexadecimal notation.

`target`
defines the number of lines to be searched for char1. The search for char1 starts with the current line and continues up to, but does not include, the target line. If you specify an asterisk (*), the search continues to the end of the file (or the end of the range - see SET RANGE). If you omit target, only the current line is altered.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

`n`
is the number of occurrences of char1 to be altered in each line examined. If you specify an asterisk (*), all occurrences of char1 are altered. If you omit n, only one occurrence of char1 in each line is altered. For compatibility with the CMS editor (EDIT), the G (Global) operand may be specified, but only when target is specified as a number.

`p`
specifies the relative number of the first occurrence of char1 to be altered in each line examined. If you omit p, the alteration starts with the first occurrence of char1 in a line.

Responses:

The column pointer remains unchanged.

If SET STAY OFF is in effect (the default), the last line examined becomes the new current line.

If SET STAY ON is in effect, the line pointer remains unchanged.

When verification is on, every line that is changed is displayed.

On a display terminal, when verification is off and a change has been made, the following message is displayed:

```
517I  nn OCCURRENCE(S) CHANGED ON nn LINE(S).
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND,RC=2
585E NO LINE(S) CHANGED,RC=4
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0	Normal
1	TOF or EOF reached
2	Target line not found
4	No change occurred
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

You can use ALTER to change a special character to a backspace character, in order to produce compound characters on printed output.

Current Line:

```
===== Please underline T$_H$_I$_S$_
```

```
ALTER  $  16  1  *   (alter $ to X'16' each time it appears in current line)
```

```
===== Please underline T _H _I _S _
```

```
When printed, the line will look like this:
```

Please underline T̲H̲I̲S̲

BACKWARD

Use the BACKWARD subcommand to scroll backward toward the beginning of a file for a specified number of screen displays.

The format of the BACKWARD subcommand is:

BAckward	[n|*|1]

where:

n is the number of screen displays you want to scroll backward. If you specify an asterisk (*), the line pointer moves to the "TOP OF FILE" line. If you omit n, the screen scrolls back one display.

Usage Notes:

1. The editor assigns the BACKWARD subcommand to the PF7 key.

2. If you issue a BACKWARD subcommand when the current line is the "TOP OF FILE" line, the editor "wraps around" the file, making the last line of the file the new current line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
543E INVALID NUMBER : xxxxxxxx,RC=5
```

Return Codes:

0 Normal
1 Top of File reached (subsequent BACKWARD restarts at end of file)
3 Terminal is not a display
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

BOTTOM

Use the BOTTOM subcommand to make the last line of the file or of the range (see the SET RANGE subcommand) the new current line.

The format of the BOTTOM subcommand is:

Bottom	

Usage Notes:

1. One way to begin entering new lines at the end of a file is to issue the BOTTOM subcommand followed by the INPUT subcommand.

2. While the BOTTOM subcommand moves the line pointer to the last file line, a LOCATE * subcommand moves it to the null "END OF FILE" (or "END OF RANGE") line that follows the last line of the file. Use LOCATE * instead of BOTTOM if you intend to follow with an upward search for the *last* occurrence of a string within a file, (because the upward search starts with the line preceding the current line).

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

CANCEL (Macro)

Use the CANCEL macro when editing multiple files to terminate the editing session for all of the files. The CANCEL macro is equivalent to issuing a QUIT subcommand for each file.

The format of the CANCEL macro is:

CANCEL	

Usage Notes:

1. The QUIT that is issued against all the files is either "protected" or "unprotected," depending on the defined synonyms (see the QUIT subcommand). A protected QUIT causes a warning message to be issued if a file has been modified.

2. If the QUIT subcommand has been defined to perform a protected QUIT, then CANCEL will quit all unmodified files but will issue a warning message for each modified file, leaving the user in edit mode. If all the files being cancelled were unmodified, the CANCEL macro causes an immediate exit from the editor.

Responses:

(if protected QUIT is defined):

```
577E FILE HAS BEEN CHANGED.  USE QQUIT TO
     QUIT ANYWAY.,RC=12
```

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
12 File has been changed (protected QUIT)

CAPPEND (Macro)

Use the CAPPEND macro to append specified text to the end of the current line.

The format of the CAPPEND macro is:

CAppend	[text]

where:

`text`
is the text to be appended to the end of the current line. If no text is specified, the column pointer is placed under the first trailing blank.

Usage Notes:

1. If SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

2. The text operand starts with the first character following the blank delimiter after the subcommand name.

Responses:

The column pointer is placed under the first character of the appended text.

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
585E NO LINE(S) CHANGED,RC=4
```

Return Codes:

0 Normal
3 Truncated or spilled
4 No lines changed
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Current Line:

```
===== It is an ancient mariner,
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CAPPEND and he stoppeth one of three.
```

(one blank between subcommand name and operand)

```
===== It is an ancient mariner,and he stoppeth one of three.
      <...+....1....+....2....+|...3....+....4....+....5....+....6....+....7...
```

Current Line:

```
===== It is an ancient mariner,
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CAPPEND  and he stoppeth one of three.
```

(two blanks between subcommand name and operand)

```
===== It is an ancient mariner, and he stoppeth one of three.
      <...+....1....+....2....+|...3....+....4....+....5....+....6....+....7...
```

CDELETE

Use the CDELETE subcommand to delete one or more characters from the current line, starting at the column pointer.

The format of the CDELETE subcommand is:

CDelete	[column-target|1]

where:

column-target
: defines the number of characters to be deleted. Deletion starts at the column pointer and continues up to, but does not include, the column-target.

  For a complete description of column-targets, refer to the CLOCATE subcommand.

Usage Notes:

1. As with all column-targets, the following SET options have an effect on the column-target search:

   SET ARBCHAR
   SET CASE
   SET SPAN
   SET VARBLANK

2. When SET STREAM OFF has been issued, only the current line is searched for the string to be deleted. When SET STREAM ON has been issued, the editor searches for the string up to the end of the file (or range) or to the top of the file (or range) if the search is in a backward direction. In this case, several lines may be deleted.

3. Use the CLOCATE subcommand to move the column pointer to the desired location.

Response:

If SET STREAM ON is in effect, and more than one line was deleted, the following message is displayed:

```
501I  nn LINE(S) DELETED
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED.,RC=4
698E TARGET STRING TOO LONG, UNABLE TO PARSE THE ENTIRE TARGET
     STRING,RC=5
700E LOGICAL AND OPERATOR '&' NOT VALID FOR COLUMN TARGETS,RC=5
```

Return Codes:

0	Normal
2	Target not found
4	No line(s) changed
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

Current Line:

```
===== There are now more than 3,000 languages in the world.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
```

```
CL   :11 (move the column pointer)
CD   :15 (delete characters from the column pointer to column 15)
```

```
===== There are more than 3,000 languages in the world.
      <...+....1|...+....2....+....3....+....4....+....5....+....6....+....7...
```

Current Line:

```
===== A dialect is considered a language if it is used in newspapers.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
```

```
CL   :43
CDELETE  -6 (delete characters in current column and 5 preceding ones)
```

```
===== A dialect is considered a language if used in newspapers.
      <...+....1....+....2....+....3....+.|..4....+....5....+....6....+....7...
```

Current Line:

```
===== Russian is spoken by 190 million people.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
```

```
CDELETE  /spoken/ (delete characters from the column pointer to the first character of the string)
```

```
===== spoken by 190 million people.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
```

Current Line:

```
===== Russian is spoken by 190 million people.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
```

```
CL   :39
CD -/190/ (delete characters from column pointer up to the first character of the string)
```

```
===== Russian is spoken by 1.
      <...+....1....+....2.|..+....3....+....4....+....5....+....6....+....7...
```

CFIRST

Use the CFIRST subcommand to move the column pointer to the beginning of the zone (see SET ZONE).

The format of the CFIRST subcommand is:

CFirst	

Usage Note:

After subcommands that move the column pointer have been executed, use the CFIRST subcommand to reset the column pointer to the left zone.

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

Current Line:

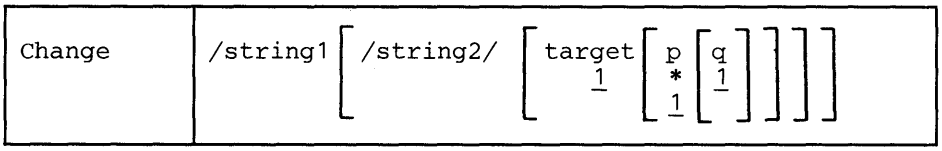
(Note the position of the column pointer.)

```
===== The automobile heater was invented by a woman from Brooklyn.
      <...+....1....+....2....+....3....+....4|...+....5....+....6....+....7...

CFIRST

===== The automobile heater was invented by a woman from Brooklyn.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
```

CHANGE

Use the CHANGE subcommand to change a specified group of characters to another group of characters of the same or a different length. You can use the CHANGE subcommand to change more than one line at a time.

The format of the CHANGE subcommand is:



where:

`/ (diagonal)`
signifies any delimiting character that does not appear in the character strings involved in the change.

`string1`
is a group of characters to be changed (old data).

`string2`
is the group of characters that is to replace string1 (new data). If string2 is omitted, it is assumed to be a null string. The trailing delimiter may be necessary in certain circumstances. For example, if string2 has trailing blanks the trailing delimiter should be used to indicate where the string ends.

`target`
defines the number of lines to be changed. Lines are changed starting with the current line, up to but not including the target line. If you specify an asterisk (*), lines are changed until the end of the file (or the end of the range). If you omit target, only the current line is changed.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

`p`
is the number of occurrences of string1 to be changed in each line. If you specify *, string1 is changed every time it appears in a line. If you omit p, string1 is changed only once.

`q`
is the relative number of the first occurrence of string1 to be changed in each line. If you omit q, the change starts with the first occurrence of string1 in each line.

Usage Notes:

1. The first nonblank character following the CHANGE subcommand is considered to be the delimiter.

   For example:

   ```
   CHANGE .VM/370.CMS. changes VM/370 to CMS
   ```

2. If string2 is longer than string1, and if SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

   If string2 is shorter than string1, characters are shifted left (from the truncation column), and the line is padded with blanks (up to the truncation column).

3. If string1 is represented as a null string, string2 is inserted in the line, starting at the beginning of the zone, which may or may not be column 1.

4. Using CHANGE with SET ARBCHAR ON:

   ```
   SET ARBCHAR ON .
   CHANGE /(.)/'.'/
   ```

   The expression that was in parentheses is now enclosed by quotation marks.

   ```
   CHANGE /(.)//
   ```

   String2 is represented as a null string. As a result, the expression in parentheses (and the parentheses) is deleted.

   ```
   SET ARBCHAR ON $
   CHANGE /y$/y/
   ```

   results in all characters following y being deleted, ending at zone 2 (not truncation column). Characters from zone 2 to the truncation column are shifted left and the line is padded with blanks (up to the truncation column).

   For additional examples of using CHANGE with SET ARBCHAR, refer to the "Examples" section below and to the SET ARBCHAR subcommand description.

5. Using SET CASE and CHANGE:

   String1 should be typed exactly as it appears in the file in order for it to be changed (with SET CASE MIXED).

6. Using SET STAY and CHANGE:

   If you specify that a change is to occur on multiple lines and the change occurs, the current line pointer will be:

   a. Unchanged, if SET STAY ON has been issued

b. Moved to the last line scanned, if SET STAY OFF is in effect (the default).

7. Using SET ZONE and CHANGE:

   The search for string1 occurs only between the left and right zones. However, characters are shifted left or the line is padded with blanks from the right zone up to the truncation column, as explained in usage note 2.

```
SET ARBCHAR ON $
CHANGE /$/xy/
```

   results in all characters from zone 1 through zone 2 (not the truncation column) being replaced by characters xy. Characters from zone 2 to the truncation column are shifted left and the line is padded with blanks (up to the truncation column).

8. The search for string1 is not affected by the setting of SET SPAN or SET VARBLANK.

9. The CHANGE subcommand updates the LASTLORC buffer. Refer to the SET LASTLORC subcommand in this publication.

Responses:

On a typewriter terminal, when verification is on, every line that is changed is displayed.

On a display terminal, when verification is off and a change is made, one of the following messages is displayed:

```
518E  nn OCCURRENCE(S) CHANGED ON nn LINE(S);
      nn LINE(S) {TRUNCATED|SPILLED}
517I  nn OCCURRENCE(S) CHANGED ON nn LINE(S).
```

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
511E STRING2 CONTAINS MORE ARBITRARY CHARACTERS
      THAN STRING1,RC=5
518E nn OCCURRENCE(S) CHANGED ON nn LINE(S);
      nn LINE(S) {TRUNCATED|SPILLED},RC=3
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED.,RC=4
698E TARGET STRING TOO LONG, UNABLE TO PARSE THE
     ENTIRE TARGET STRING, RC=5
```

Return Codes:

0	Normal
1	TOF or EOF reached during change
2	Target line not found
3	Truncation or spill occurred during the change
4	No change occurred. (string1 has not been found)
5	Invalid operand or number
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

Current Line:

```
===== A rose is a rose is a rose.
```

`CHANGE/rose/daisy/` (change first occurrence in the current line)

```
===== A daisy is a rose is a rose.
```

`CHANGE/rose/daisy/ 1 *` (change all occurrences in the current line)

```
===== A daisy is a daisy is a daisy.
```

The following subcommand would change every occurrence of "rose" to "daisy" in every line of the file, beginning with the current line.

```
CHANGE/rose/daisy/ * *
```

Current Line:

```
===== James Bernard is my favorite artist.
```

```
CHANGE//Mr. / (insert "Mr. " in column 1)
```

```
===== Mr. James Bernard is my favorite artist.
```

Using CHANGE with SET ARBCHAR ON:

```
===== Lewis Carroll wrote (The Walrus and the Carpenter).
```

`CHANGE/($)/"$"/` (change parentheses to quotation marks)

```
===== Lewis Carroll wrote "The Walrus and the Carpenter".
```

```
===== Robert Browning wrote (among other things) "My Last Duchess".
```

`CHANGE  / ($)//` (string2 is a null string)

```
===== Robert Browning wrote "My Last Duchess".
```

CINSERT

Use the CINSERT subcommand to insert text in the current line starting at the column pointer. As a result, the data is shifted to the right.

The format of the CINSERT subcommand is:

`CInsert`	`text`

where:

`text`
is the group of characters to be inserted starting at the column pointer.

Usage Notes:

1. You can insert blanks with the CINSERT subcommand. The operand must contain the number of blanks you want to insert. (You cannot issue the CINSERT subcommand without an operand.)

2. If SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

3. Use the CLOCATE subcommand to move the column pointer to the desired location.

Responses:

The column pointer remains unchanged.

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
545E MISSING OPERAND(S),RC=5
585E NO LINE(S) CHANGED,RC=4
```

Return Codes:

0 Normal
3 Truncated or spilled
4 No line(s) changed
5 Missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Current Line:

```
===== Mount Everest is high.
      |...+....1....+....2....+....3....+....4....+....5....+....6....
```

```
CL /high/
CI exactly 29,000 feet
```

(move the column pointer)

(one blank entered after "feet" for spacing)

```
===== Mount Everest is exactly 29,000 feet high.
      <...+....1....+..|.2....+....3....+....4....+....5....+....6....
```

CLAST

Use the CLAST subcommand to move the column pointer to the end of the zone (see SET ZONE).

The format of the CLAST subcommand is:

CLAst	

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

```
SET ZONE 1 20
```

Current Line:

```
===== Harvey Kennedy invented the shoelace and made $2.5 million.
      |...+....1....+....>....+....3....+....4....+....5....+....6....+....7...

CLAST

===== Harvey Kennedy invented the shoelace and made $2.5 million.
      <...+....1....+....|....+....3....+....4....+....5....+....6....+....7...
```

CLOCATE

Use the CLOCATE subcommand to scan the file for a specified column-target, and to move the column pointer to the target, if located. The search begins with the column following (or preceding) the column pointer in the current line. The CLOCATE subcommand is used to find successively *all* occurrences of a character string and to move the column pointer if the string is found.

The format of the CLOCATE subcommand is:

`CLocate`	`column-target`

where:

`column-target`
can be specified as an absolute column number, a relative column number, a string expression, or a complex string expression. A complete description of column-targets follows, under "Usage Notes."

Usage Notes - Column-targets:

A column-target is a specialized operand used only in the CLOCATE and CDELETE subcommands.

It is not to be confused with the *target* operand used in many other XEDIT subcommands and macros. That kind of target is actually a line target. When a line target is found, the line pointer is moved, but the column pointer is not moved. If a line target is expressed as a string, only the first occurrence of the string will be located in each line, regardless of how many times the string appears in a line. For example, if a line contains more than one occurrence of the string "ABC" and you issue a LOCATE subcommand for it, the line pointer moves to that line. If the same LOCATE subcommand is repeated, the line pointer would move to the *next* line containing "ABC".

On the other hand, when a *column-target* is expressed as a string and that string is found, the column pointer is moved to the first character of the string. If the string appears in this line more than once, repeated CLOCATE subcommands move the column pointer to the first character of the string for each occurrence located. In addition, if SET STREAM ON is in effect (the default), the line pointer is also moved, making it possible to locate all occurrences of the string throughout the file (by repeated executions of the CLOCATE subcommand).

The CLOCATE subcommand is used to move the column pointer to a specified column or to locate a specified string; the column pointer is moved if the string is found.

A column-target may be expressed in the following ways:

1. An *absolute column number* is used to move the column pointer. It is expressed as a colon followed by an integer. For example:

   ```
   CLOCATE :2
   ```

   moves the column pointer to column 2 of the current line.

Use this form of the CLOCATE subcommand when you plan to enter subsequently a subcommand that starts its operation at the column pointer, for example, JOIN COLUMN.

2. A *relative column number* is used to move the column pointer. It is expressed as an integer and may be preceded by a plus (+) or minus (-) sign, which indicates a right (+) or left (-) move. If the sign is omitted, a plus (+) is assumed.

   For example:

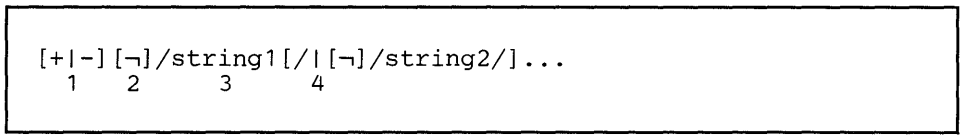
   ```
   CLOCATE +2
   CLOCATE  2
   ```

   both move the column pointer two columns to the right of its current position. A relative column number may also be specified as an asterisk (*), which means one column to the left of the left zone (-*) or one column to the right of the right zone (+* or *). By using CLOCATE -* or * first, you can then use CLOCATE to find a string, even if it is in the first or last column of the zone. You can determine when the column pointer has reached either ZONE1-1 or ZONE2+1 by using the TOL (Top of Line) or EOL (End of Line) operands on the QUERY or EXTRACT subcommand.

3. A *string expression* defines a group of characters to be located, starting with the column immediately following (or preceding, depending on the direction of the search) the current column.

   If SET HEX ON has been issued, a string may be specified in hexadecimal notation, and the EBCDIC equivalent will be searched for.

   The format of a string expression is:

   [1] Right (+) or left (-) search (right is the default)

   [2] "NOT" symbol (locate something that is not the specified string)

   [3] character (or hexadecimal) string. The trailing delimiter may be necessary in certain circumstances. For example, if string1 has trailing blanks the trailing delimiter should be used to indicate where the string ends.

   [4] "OR" symbol (vertical bar) (locate any of the strings, separated by OR symbols, starting with the first string specified)

   Examples:

   `CLOCATE /horse/`
   searches the file for the first occurrence of "horse," starting at the first character following the column pointer.

   `CLOCATE -/horse/`
   searches *backward* for the first occurrence of "horse," starting at the first character preceding the column pointer.

```
CLOCATE ¬/horse/
```
searches for the first occurrence that is *not* "horse," starting at the first character following the column pointer.

```
CLOCATE /horse/|/buggy/
```
searches for "horse", even if "buggy" occurs before "horse" in the file. If "horse" is not found, then searches for "buggy".

```
CLOCATE //
```
advances the column pointer one column.

4. A *complex string expression* can have the same format as a string expression (see above), but any string can be expressed as a "complex string," which is defined as a string associated with one or more of the following SET subcommand options:

   ARBCHAR
   CASE
   SPAN
   VARBLANK

   See the LOCATE subcommand for a description of these options.

5. SET STREAM is meaningful only with column-targets.

   ```
   STREAM ON
   ```

   specifies that the search for a string that matches the column-target starts with the character following (or preceding) the column pointer and continues to the end (or top) of file.

   If SET WRAP is also ON and the editor "wraps around" the file (see SET WRAP) if the top of file (or range) or end of file (or range) is reached during a CLOCATE, the following warning message is displayed:

   592W WRAPPED ....

   ```
   STREAM OFF
   ```

   specifies that the search is confined to the current line (or zones within the line).

6. The CLOCATE subcommand updates the LASTLORC buffer. Refer to the SET LASTLORC subcommand in this publication.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE TO PARSE THE ENTIRE
     TARGET STRING,RC=5
700E LOGICAL AND OPERATOR '&' NOT VALID FOR COLUMN TARGETS,RC=5
592W WRAPPED ....
```

Return Codes:

0	Normal
1	Out of zone definition during execution
2	Target not found (character pointer stays where it was)
5	Invalid or missing operand(s)
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

Current Line:

```
===== John Keats studied medicine and practiced as an apothecary.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CLOCATE  :6   (absolute column number)

===== John Keats studied medicine and practiced as an apothecary.
      <...+|...1....+....2....+....3....+....4....+....5....+....6....+....7...
```

Current Line:

```
===== James Joyce was a school teacher in Dublin.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CLOCATE  +6   (relative column number)

===== James Joyce was a school teacher in Dublin.
      <...+.|..1....+....2....+....3....+....4....+....5....+....6....+....7...
```

Current Line:

```
===== Herman Melville worked as a customs inspector in N.Y.C.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CLOCATE /customs/

===== Herman Melville worked as a customs inspector in N.Y.C.
      <...+....1....+....2....+...|3....+....4....+....5....+....6....+....7...
```

Current Line:

```
===== Charles Dickens served as a law clerk and was a reporter.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CLOCATE  /reporter/|/clerk/   (locate "reporter" or "clerk")

===== Charles Dickens served as a law clerk and was a reporter.
      <...+....1....+....2....+....3....+....4....+...|5....+....6....+....7...
```

CMS

Use the CMS subcommand to force the editor to transmit a command to CMS for execution, or to cause the editor to enter CMS subset mode.

The format of the CMS subcommand is:

CMS	[commandline]

where:

commandline
: is any CMS command. If no command is specified, the editor enters CMS subset mode.

Usage Notes:

1. If you enter the CMS subcommand *without* an operand, you enter CMS subset mode. For a description of CMS subset mode, please refer to the IBM publication, *VM/SP CMS User's Guide*. You must use the CMS subset command RETURN to return to edit mode.

2. If you try to execute a CMS command that terminates abnormally, changes made during your editing session might be lost. You should save the input you have entered before you use the CMS subcommand.

Responses:

When you issue the CMS subcommand without an operand, the following message is displayed:

```
CMS SUBSET
```

This indicates that you are in CMS subset mode. The editor clears the screen before issuing this message; the file display is restored when you enter the RETURN command.

When you issue the CMS subcommand with an operand, and the CMS command does not write on the screen, the file image remains on the screen.

However, if the CMS command displays text, the text replaces the file image on the screen and the terminal is placed in a "MORE..." (waiting) status. To get the file image back on the screen, either press the CLEAR key or wait for one minute.

Error Messages:

```
512E INVALID SUBSET COMMAND,RC=-2
513E UNKNOWN CP/CMS COMMAND,RC=-3
514E RETURN CODE nn FROM command,RC=nn
```

Return Codes:

-2	Invalid subset command
-3	Unknown CMS/CP command
0	Normal
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
nn	The return code of the CMS command after RETURN to XEDIT environment

CMSG

Use the CMSG subcommand to display a message in the command line of the terminal. The CMSG subcommand is intended to be issued from a macro.

The format of the CMSG subcommand is:

CMSG	[text]

where:

`text`
is the text of the message to be displayed. If no text is specified, the command line is reset to a blank line.

Usage Note:

1. If it is issued to a typewriter terminal, the CMSG subcommand has no effect.
2. If it is issued when the CMDLINE is OFF, the CMSG subcommand has no effect.

Notes for Macro Writers:

When issued from a macro, CMSG can be used to redisplay input that the user has entered incorrectly, so that the input can be corrected and re-entered.

Responses:

The message is displayed in the command line.

Return Codes:

0 Normal
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

COMMAND

Use the COMMAND subcommand to cause the editor to execute a specified XEDIT subcommand without first checking to see if a synonym or macro with the same name exists.

The format of the COMMAND subcommand is:

COMMAND	[commandline]

where:

`commandline`
is any XEDIT subcommand name and its operands, except for ? and &.

Usage Notes:

1. The editor executes the specified subcommand even if the SET SYNONYM ON or SET MACRO ON subcommands have been issued. In other words, the editor does not check to see if a synonym or macro with the same name exists before it executes the specified subcommand.

2. If SET IMPCMSCP ON is in effect, any commands not recognized by the editor will be transmitted to CMS or to CP.

Responses:

The response, if any, from the executed subcommand is displayed.

Error Messages:

Error messages from the executed subcommand (if any) are displayed.

Return Codes:

nn Return code of the subcommand specified as operand
0 Normal
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

COMPRESS

Use the COMPRESS subcommand to prepare one or more file lines, starting with the current line, for the automatic repositioning of data according to new tab column settings defined by the SET TABS subcommand.

The format of the COMPRESS subcommand is:

COMPress	[target|1]

where:

target
: defines the number of lines to be compressed, starting with the current line, up to, but not including, the target line. If you specify an asterisk (*), the rest of the file is compressed. If you omit target, only the current line is compressed.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Notes:

1. After you compress a line, you can use the SET TABS and EXPAND subcommands to reposition the data in the new tab columns.

   Using this sequence of commands:

   SET TABS ...
   COMPRESS ...
   SET TABS ...
   EXPAND ...

   you can realign an entire table.

2. In order for COMPRESS to work properly, lines containing backspace characters (X'16') must have been entered into the file with SET IMAGE CANON, that is, compound characters ordered with backspaces arranged singly between the characters that overlay each other.

3. Lines are compressed according to the current SET TABS setting. The COMPRESS subcommand removes all contiguous blank characters (or whatever character is defined as a filler character by the SET FILLER subcommand) that immediately precede the current tab columns. It replaces each group of blank (or filler) characters with a tab character (X'05').

Responses:

1. If you specify that a compress is to occur on multiple lines and the compress occurs, the current line pointer will be:

   a. Unchanged, if SET STAY ON has been issued

b. Moved to the last line compressed, if SET STAY OFF is in effect (the default).

2. The data in a compressed line shifts left, reflecting the removal of blanks.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=4
698E TARGET STRING TOO LONG, UNABLE TO PARSE THE
     ENTIRE TARGET STRING, RC=5
```

Return Codes:

0 Normal
1 TOF or EOF reached during execution
2 Target line not found
4 No line(s) changed
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-3 is an example of using the COMPRESS and EXPAND subcommands to realign data in a table.

```
REALIGN  SAMPLE   A1  F 80  TRUNC=80 SIZE=14 LINE=3 COL=1 ALT=0




===== * * * TOP OF FILE * * *
===== COUNTRIES WITH HIGHEST LIFE EXPECTANCIES
=====
===== COUNTRY        MEN  WOMEN
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== SWEDEN         71.8 76.5
===== NETHERLANDS    71.0 76.4
===== ICELAND        70.8 76.2
===== NORWAY         71.0 76.0
===== DENMARK        70.6 75.4
===== CANADA         68.7 75.2
===== FRANCE         68.0 75.5
===== JAPAN          69.0 74.3
===== U.K.           68.5 74.7
====> COMPRESS +10
                                                        X E D I T  1 FILE
```

Figure 3-3. Realigning a Table (Current tab setting is 1 15 20) - COMPRESS

```
 REALIGN  SAMPLE   A1  F 80  TRUNC=80 SIZE=14 LINE=12 COL=1 ALT=1

===== COUNTRYMENWOMEN
===== SWEDEN71.876.5
===== NETHERLANDS71.076.4
===== ICELAND70.876.2
===== NORWAY71.076.0
===== DENMARK70.675.4
===== CANADA68.775.2
===== FRANCE68.075.5
===== JAPAN69.074.3
===== U.K.68.574.7
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====
=====
===== * * * END OF FILE * * *




====> SET TABS 1 30 50 # -/COUNTRY/ # EXPAND +10
                                                    X E D I T  1 FILE
```

Figure 3-4. Realigning a Table - Set New Tabs and EXPAND

```
 REALIGN  SAMPLE   A1  F 80  TRUNC=80 SIZE=14 LINE=12 COL=1 ALT=2

===== COUNTRY                    MEN                 WOMEN
===== SWEDEN                     71.8                76.5
===== NETHERLANDS                71.0                76.4
===== ICELAND                    70.8                76.2
===== NORWAY                     71.0                76.0
===== DENMARK                    70.6                75.4
===== CANADA                     68.7                75.2
===== FRANCE                     68.0                75.5
===== JAPAN                      69.0                74.3
===== U.K.                       68.5                74.7
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====
=====
===== * * * END OF FILE * * *




====>
                                                    X E D I T  1 FILE
```

Figure 3-5. Realigning a Table - Realigned Table

COPY

Use the COPY subcommand to copy one or more lines, beginning with the current line, at a specified location in the file.

The format of the COPY subcommand is:

COpy	target1 target2

where:

`target1`
defines the number of lines to be copied. Lines are copied starting with the current line, up to but not including target1.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

`target2`
defines the line after which the data is to be copied.

Responses:

The last line that was copied becomes the new current line.

The editor displays the following message:

```
506I  nn LINES COPIED
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
557S NO MORE STORAGE TO INSERT LINES.,RC=4
```

Return Codes:

0 Normal
2 Target line not found
4 No more storage available
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-6 is a before-and-after example of the COPY subcommand.

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=26 LINE=15 COL=1 ALT=0

00006 SLEEP UNDER WATER.
00007 A LIZARD OF CENTRAL AMERICA CALLED THE BASILISK CAN RUN
00008 ACROSS WATER.
00009 OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
00010 LEARNING.
00011 THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
00012 THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
00013 THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
00014 SQUID.
00015 THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS.  IT FEEDS ON THE GLUE OF THE
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
00016 BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
00017 ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
00018 THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
00019 HAS ON THE SHARKS.
00020 A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
00021 FINGER DRAWN ACROSS AN INFLATED BALLOON.
00022 STINGAREES, FISH FOUND IN AUSTRALIA, CAN WEIGH UP TO 800 POUNDS
00023 AND HAVE THE MOST POTENT VENOM OF ALL FISH.
00024 OSTRICHES CAN KICK LIKE A MULE, IMITATE A LION'S ROAR, AND HISS LIKE
====> COPY 2 :2
                                                        X E D I T  1 FILE
```

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=28 LINE=4 COL=1 ALT=1
2 LINES COPIED




00000 * * * TOP OF FILE * * *
00001 CHAMELEONS, REPTILES THAT LIVE IN TREES, CHANGE THEIR COLOR WHEN
00002 EMOTIONALLY AROUSED.
00003 THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS.  IT FEEDS ON THE GLUE OF THE
00004 BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
00005 THE GUPPY IS NAMED AFTER THE REVEREND ROBERT GUPPY, WHO FOUND THE FISH
00006 ON TRINIDAD IN 1866.
00007 AN AFRICAN ANTELOPE CALLED THE SITATUNGA HAS THE RARE ABILITY TO
00008 SLEEP UNDER WATER.
00009 A LIZARD OF CENTRAL AMERICA CALLED THE BASILISK CAN RUN
00010 ACROSS WATER.
00011 OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
00012 LEARNING.
00013 THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
====>
                                                        X E D I T  1 FILE
```

Figure 3-6. The COPY Subcommand - Before and After

COUNT

Use the COUNT subcommand to display the number of times a specified character string appears in one or more lines, starting with the current line.

The format of the COUNT subcommand is:

COUnt	/string[/target|1]

where:

`string`
is the character string to be counted.

`target`
defines the number of lines to be searched. The search begins with the current line and continues up to, but does not include, the target line. If you omit target, only the current line is searched.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Notes:

1. The count corresponds to the number of strings that would be changed by a CHANGE subcommand.

2. Arbitrary characters (see the SET ARBCHAR subcommand) can be specified in the /string/ operand.

   For example:

   ```
   SET ARBCHAR ON $
   COUNT /($)/ *
   ```

   will count all of the expressions enclosed in parentheses.

3. In a macro, you can use EXTRACT/LASTMSG/ to get the number of occurrences.

Responses:

If you specify that a COUNT is to occur on multiple lines and the count occurs, the current line pointer will be:

a. Unchanged, if SET STAY ON has been issued
b. Moved to the last line scanned, if SET STAY OFF is in effect (the default).

The editor displays the number of times the string appears with the following message:

```
522I  nn OCCURRENCES
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE
     TO PARSE THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0	Normal
1	TOF or EOF reached during execution
2	Target line not found
5	Missing or invalid operands
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

Current Line:

```
===== A rose is a rose is a rose.
```

```
COUNT/rose/
```

Response:

```
3 OCCURRENCES
```

COVERLAY

Use the COVERLAY subcommand to replace selectively one or more characters in the current line with the corresponding characters in the text that is keyed in. Replacement starts at the column pointer.

The format of the COVERLAY subcommand is:

COVerlay	text

where:

`text`
is a group of characters that replaces characters in corresponding positions in the current line.

Usage Notes:

1. Blank characters in the text operand indicate that the corresponding characters in the current line are *not* to be overlaid.

   For example:

   ```
   Current line:                      ABCDE
   COVERLAY subcommand:    COVERLAY MN PQ
   Result:                            MNCPQ
   ```

2. An underscore character (_) is used in the text operand to place a blank in the corresponding character position in the current line.

   Therefore, you cannot use this subcommand to place an underscore character in a line.

   Use the COVERLAY command carefully if a line contains underscored words or other compound characters.

3. If SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
545E MISSING OPERAND(S),RC=5
585E NO LINE(S) CHANGED,RC=4
```

Return Codes:

0	Normal
3	Truncated or spilled
4	No lines changed
5	Missing operand(s)
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

Current Line:

```
===== Shall I compare thee to a summer's day?
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CL /summer/  (move the column pointer)
COV winter   night?  (blanks are not overlaid)

===== Shall I compare thee to a winter's night?
      <...+....1....+....2....+.|..3....+....4....+....5....+....6....+....7...
```

CP

Use the CP subcommand to transmit commands to the VM/SP control program environment during an editing session.

The format of the CP subcommand is:

CP	[commandline]

where:

commandline
: is any CP command valid for your CP command privilege class. If you specify this operand, the editor transfers the command to CP and automatically returns to the editor environment. If you omit this operand, the editor enters the CP console function mode, where you can enter CP commands without preceding each command with CP. To return to the edit environment, enter the CP command BEGIN.

Responses:

When you issue the CP subcommand with an operand, and the CP command does not write on the screen, the file image remains on the screen.

However, if the CP command displays text, the text replaces the file image on the screen and the terminal is placed in a "MORE..." (waiting) status. To get the file image back on the screen, either press the CLEAR key or wait for one minute.

Error Messages:

```
513E UNKNOWN CP/CMS COMMAND,RC=-3
```

Return Codes:

-3 Unknown command
nn Return code of the CP command
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

CREPLACE

Use the CREPLACE subcommand to replace one or more characters in the current line with a specified character or group of characters, starting at the column pointer.

The format of the CREPLACE subcommand is:

CReplace	text

where:

`text`
specifies those characters that are to replace characters in the current line. This operand may contain all blanks, or it may contain imbedded blanks.

Usage Notes:

1. Characters in the current line are replaced, one for one, with characters in the operand.
2. No shifting occurs, as with deletion or insertion of characters.
3. Use the CLOCATE subcommand to move the column pointer to the desired location.
4. If SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
545E MISSING OPERAND(S),RC=5
585E NO LINE(S) CHANGED,RC=4
```

Return Codes:

0 Normal
3 Truncated or spilled
4 No line(s) changed
5 Missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Current Line:

```
===== Shall I compare thee to a summer's day?
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...

CL  /summer/   (move the column pointer)
CR winter night?   (blanks may be imbedded)

===== Shall I compare thee to a winter night?
      <...+....1....+....2....+.|..3....+....4....+....5....+....6....+....7...
```

CURSOR

Use the CURSOR subcommand to move the cursor to a specified position and to assign a priority to the specified position. The cursor is positioned according to the highest assigned priority when all pending prefix subcommands and any macros are executed or when the screen is redisplayed.

The format of the CURSOR subcommand is:

CURsor	CMdline [colno|1] [Priority n]
	Column [Priority n]
	File lineno [colno] [Priority n]
	Screen lineno [colno] [Priority n]
	Home [Priority n]

where:

`CMdline`
moves the cursor under the command line in the specified column.

`Column`
moves the cursor under the current line in the current column position.

`File`
moves the cursor relative to the beginning of the file.

`Screen`
moves the cursor relative to the beginning of the logical screen.

`Home`
moves the cursor from the command line to the screen or vice versa, depending on its current position. If the cursor is on the screen, that is, any place but on the command line, CURSOR HOME remembers its location and moves it to the command line. If the cursor is on the command line, CURSOR HOME returns it to its previous location on the screen.

`lineno`
specifies the file line (if used with the FILE operand) or the screen line (if used with the SCREEN operand) where the cursor is to be placed.

`colno`
specifies the column number where the cursor is to be placed. The location of colno varies according to the option with which it is specified:

If used with CMDLINE, colno places the cursor relative to the beginning of the command line (after the arrow).

If used with FILE, colno places the cursor relative to the beginning of a file line (after the prefix area). If not specified and the cursor is currently within the file area, it is placed in the same column number in the specified file line. Otherwise, the cursor is placed in the first column.

If used with SCREEN, colno places the cursor relative to the beginning of the screen (under the first character of the prefix area). When colno is not

specified for CURSOR SCREEN, the default cursor position is the current column in which it is displayed. If the cursor is on the command line, the colno is 7.

`Priority n`
is the priority number assigned. It must be greater than or equal to zero and less than 256. If no priority is specified, all priorities of prefix subcommands and macros are ignored and the last CURSOR subcommand issued positions the cursor.

Initial Setting:

```
'ENTER' key        30 (initial setting for 'SET ENTER')
Change on the
screen             20
```

Refer to Section 4: "Prefix Subcommands and Macros" in this publication for a complete list of the priorities for all prefix subcommands and macros.

Usage Notes:

1. The CURSOR subcommand with the FILE or SCREEN operands is mainly intended to be issued from XEDIT macros.

2. You can display the current cursor position, relative to the beginning of the file and the beginning of the screen, with the QUERY CURSOR subcommand (or, within a macro, you can use the EXTRACT subcommand).

3. CURSOR HOME (and CURSOR COLUMN) are good candidates for PF key assignment. The initial setting of the PF12 key is CURSOR HOME.

   If CURSOR HOME is issued and the cursor cannot be returned to its previous position in the file (for example, if scrolling or splitting the screen removes that part of the file from the current screen), the cursor is positioned in the current column of the current line. However, if the cursor was located in an area other than the file area (like a reserved line) and CURSOR HOME is issued, the cursor returns to its position on the screen even if the screen is scrolled (provided a change to the screen layout does not make this impossible, for example, by splitting the screen).

   If the cursor is not on any logical screen, it moves to the command line. HOME, at this point, is line one, column one.

4. If you issue CURSOR HOME immediately after entering XEDIT, the cursor will move to the current line and column if they are on the screen. If the current line and column are not on the screen, the cursor will move to the first verify column.

5. If the cursor is in the prefix area when CURSOR HOME is issued, the cursor will move to the command line. If you issue CURSOR HOME again, the cursor will move to the first verify column within the line adjacent to that prefix area.

Notes For Macro Writers:

1. The CURSOR subcommand does not scroll the screen. Therefore, when you use CURSOR FILE lineno, the line number (lineno) must appear on the current screen display. For example, in the following subcommand,

   ```
   CURSOR FILE 700
   ```

   file line 700 must appear on the current screen display.

   When you use CURSOR SCREEN lineno, the screen line (lineno) must be within your screen size.

2. A macro can indicate where the cursor should be positioned as well as the priority for this cursor movement. As a result, when multiple prefix subcommands are issued and a macro is executed on the command line, the cursor is positioned at the location specified with the highest priority.

   Note: The cursor position is ONLY updated when a higher cursor priority is encountered. Therefore, if two prefix subcommands are specified that have the same cursor priority, the first one will determine the cursor placement. Likewise, if a prefix subcommand is issued and a macro is executed on the command line, both with equal cursor priorities, the prefix subcommand will determine the cursor placement.

3. If multiple CURSOR subcommands are issued, the priority of each is checked and the cursor position is updated to reflect the new setting, which corresponds to the command with the highest priority. The cursor remains in the screen it was in when the ENTER key is pressed; therefore, a CURSOR subcommand in another logical screen will have no effect on cursor placement.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=1
527E INVALID COLUMN NUMBER,RC=1
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
1 Specified line (lineno) or column (colno) will set the cursor outside of the screen - no action taken
3 Subcommand valid only for display terminal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

DELETE

Use the DELETE subcommand to delete one or more lines from a file, beginning with the current line.

The format of the DELETE subcommand is:

DELete	[target|1]

where:

target
: defines the number of lines to be deleted. Deletion starts with the current line and continues up to, but does not include, the target line. If you enter an asterisk (*), the rest of the file is deleted. If you omit target, only the current line is deleted.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Notes:

You can clear a line by pressing the spacebar once in column one and then pressing the ERASE EOF key. If a line is cleared in this manner, a blank line remains in the file. If you don't press the spacebar, the data will come back in the line the next time you press the ENTER key. This prevents you from erasing a line if you press the ERASE EOF key accidentally.

Responses:

If the operand is specified as any type of target other than a relative displacement target or if the TOP OF FILE or END OF FILE line is reached, the number of lines deleted is displayed with the following message:

```
501I  nn LINE(S) DELETED
```

On a forward DELETE (toward the end of the file) the line immediately following the last line deleted becomes the new current line.

On a backward DELETE (toward the top of the file), the line preceding the last deleted line becomes the new current line.

If you delete all lines in a file, the following message is displayed:

```
559W WARNING: FILE IS EMPTY
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
559W WARNING: FILE IS EMPTY
698E TARGET STRING TOO LONG, UNABLE
     TO PARSE THE ENTIRE TARGET STRING, RC=5
```

Return Codes:

0 Normal
1 Partial delete due to TOF or EOF reached during execution
2 Target line not found
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-7 is a before-and-after example of the DELETE subcommand.

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=28 LINE=19 COL=1 ALT=0

===== ACROSS WATER.
===== OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
===== LEARNING.
===== THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
===== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS.  IT FEEDS ON THE GLUE OF THE
===== BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
===== ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
===== HAS ON THE SHARKS.
===== A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
===== FINGER DRAWN ACROSS AN INFLATED BALLOON.
===== STINGAREES, FISH FOUND IN AUSTRALIA, CAN WEIGH UP TO 800 POUNDS
===== AND HAVE THE MOST POTENT VENOM OF ALL FISH.
===== OSTRICHES CAN KICK LIKE A MULE, IMITATE A LION'S ROAR, AND HISS LIKE
===== A SNAKE.
===== A QUEEN ANT CAN LIVE UP TO 15 YEARS.
====> DELETE /ROBIN/
                                                        X E D I T  1 FILE
```

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=25 LINE=19 COL=1 ALT=1
3 LINE(S) DELETED
===== ACROSS WATER.
===== OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
===== LEARNING.
===== THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
===== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS.  IT FEEDS ON THE GLUE OF THE
===== BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
===== A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== FINGER DRAWN ACROSS AN INFLATED BALLOON.
===== STINGAREES, FISH FOUND IN AUSTRALIA, CAN WEIGH UP TO 800 POUNDS
===== AND HAVE THE MOST POTENT VENOM OF ALL FISH.
===== OSTRICHES CAN KICK LIKE A MULE, IMITATE A LION'S ROAR, AND HISS LIKE
===== A SNAKE.
===== A QUEEN ANT CAN LIVE UP TO 15 YEARS.
===== * * * END OF FILE * * *


====>
                                                        X E D I T  1 FILE
```

Figure 3-7. The DELETE Subcommand - Before and After

DOWN

Use the DOWN subcommand to advance the line pointer a specified number of lines toward the end of the file. The line pointed to becomes the new current line. (The DOWN subcommand is equivalent to the NEXT subcommand.)

The format of the DOWN subcommand is:

Down	[n | * | 1]

where:

n
: is the number of lines to move the line pointer. If you specify an asterisk (*), the line pointer moves to the "END OF FILE" line. If you omit n, the pointer moves down only one line.

Usage Note:

The Down n subcommand is equivalent to a plus (+) target definition.

For example:

```
Down 3
```

is equivalent to

```
+3
```

Responses:

The line pointed to becomes the new current line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
```

Return Codes:

0 Normal
1 End of file reached and displayed
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

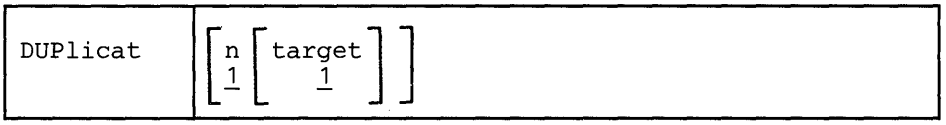
Example:

Refer to the example of the NEXT subcommand.

DUPLICAT

Use the DUPLICAT subcommand to duplicate one or more lines, starting with the current line, for a specified number of times. The new line(s) is inserted immediately after the original line(s).

The format of the DUPLICAT subcommand is:



where:

`n`
: specifies the number of times that the line(s) is to be duplicated. If you omit n, the current line is duplicated once.

`target`
: defines the number of lines to be duplicated. Duplication starts with the current line and continues up to but does not include the target line. If you omit target, only the current line is duplicated.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Response:

The last line duplicated becomes the new current line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE
     TO PARSE THE ENTIRE TARGET STRING, RC=5
557S NO MORE STORAGE TO INSERT LINES.,RC=4
```

Return Codes:

0 Normal
1 TOF or EOF reached
2 Target line not found
4 No more storage to continue duplicating
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

EMSG

The EMSG subcommand has two formats. Use the first format to display a message at the terminal and to sound the alarm. Use the second format in macros and modules that interface with XEDIT and whose messages follow the rules for VM/SP messages (see *VM/SP System Messages).* The severity of the message determines whether or not the alarm is sounded.

The format of the EMSG subcommand is:

EMSG	[text]
	[mmmnnns text]

where:

`text`
is the text of the message to be displayed. If no text is specified, a blank line will be displayed.

`mmmnnns`
is the message identification.

`mmm`
are three letters indicating which macro or module generated the message.

`nnn`
is the three-digit message number. It may be used to find additional information in the system messages manual (*VM/SP System Messages*).

`s`
indicates the severity and is one of the following:

R - response	E - error
I - information	S - severe error
W - warning	T - terminal (unrecoverable) error

With a severity of R, I, or W, the alarm is not sounded. With a severity of E, S, or T, the alarm is sounded when the message is displayed.

The message is prefixed by "DMS" before being displayed.

Usage Notes:

1. EMSG without operands can be used to sound the alarm without displaying any message.

2. Messages are displayed according to the SET MSGMODE setting (ON or OFF).

3. When using the second format, the message identification is processed according to the CP EMSG setting (see *VM/SP CP Command Reference for General Users).* In addition, the message is processed according to the SET MSGMODE setting (LONG or SHORT).

4. The message identification (mmmnnns) must not contain imbedded blanks. It must be preceded by only one blank delimiter.

5. EMSG can also be used to display messages on a typewriter terminal.

Response:

The message is displayed in the message area of the screen.

Return Codes:

0 Normal
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

EXPAND

Use the EXPAND subcommand to reposition data in one or more file lines that contain tab characters (X'05'), according to the current tab settings (defined by a SET TABS subcommand). Each time a tab character appears in a line, the editor repositions the data in the column defined by the SET TABS subcommand.

The format of the EXPAND subcommand is:

EXPand	[target|1]

where:

`target`
defines the number of lines to be expanded. Lines are expanded starting with the current line and continuing up to, but not including, the target line. If you omit target, only the current line is expanded.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Notes:

1. In order for EXPAND to work properly, lines containing backspace characters (X'16') must have been entered into the file with SET IMAGE CANON in effect, that is, compound characters ordered with backspaces arranged singly between the characters that overlay each other.

2. Refer to the COMPRESS subcommand description for an explanation of how to use the COMPRESS, EXPAND, and SET TABS subcommands to reposition data.

3. If SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

Responses:

If you specify that an EXPAND is to occur on multiple lines and it does occur, the current line pointer will be:

a. Unchanged if SET STAY ON has been issued
b. Moved to the last line expanded, if SET STAY OFF is in effect (the default).

Error Messages:

```
504E nn LINE(S) TRUNCATED|SPILLED,RC=3
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND,RC=2
585E NO LINE(S) CHANGED,RC=4
698E TARGET STRING TOO LONG, UNABLE
     TO PARSE THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
1 TOF or EOF reached during execution
2 Target line not found
3 Truncated or spilled
4 No line(s) changed
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

See the "Examples" section of the COMPRESS subcommand.

| EXTRACT

Use the EXTRACT subcommand *within a macro* to get information about internal XEDIT variables or about file data. XEDIT returns the information in one or more variables, which can then be used or examined by the macro. Operands of the EXTRACT subcommand are separated by a self-defining delimiter in the same fashion that string targets or operands are delimited.

The format of the EXTract subcommand is:

EXTract	/operand [/operand [/operand ...]]

where:

/(diagonal)
signifies any delimiting character that does not appear in the "operand" string(s).

operand
may be any one of the keywords listed below.

```
ACTion              HEX                 RESERved [*]      UPDate
ALT                 IMage               RING              VARblank
APL                 IMPcmscp            SCALe             Verify
ARBchar             INPmode             SCOPE             VERShift
AUtosave            LASTLorc            SCReen            Width
BASEft              LASTmsg             SELect            WRap
CASE                LENgth              Seq8              Zone
CMDline             LIne                SERial            =
COLOR field|*       LINENd              SHADow
COLPtr              LRecl               SIDcode
COLumn              LScreen             SIZe
CTLchar [char]      MACRO               SPAN
CURLine             MASK                SPILL
CURSor              MSGLine             STAY
DISPlay             MSGMode             STReam
EFMode              NBFile              SYNonym [name|*]
EFName              NONDisp             TABLine
EFType              NULls               TABS
ENTer               NUMber              TARGet
EOF                 PA [n|*]            TERMinal
EOL                 PACK                TEXT
ESCape              PENDing (see below) TOF
FILler              PF [n|*]            TOFEOF
FLscreen            Point [*]           TOL
FMode               PREfix (see below)  TRANSLat
FName               RANge               TRunc
FType               RECFm               UNIQueid
FULLread            REMOte              UNTil

PENDing [BLOCK][OLDNAME] name|* [target1[target2]]
PREfix [Synonym name|*]
```

The following is a list of the values returned by EXTRACT for each of the settings. The variables are returned in the form "name.n" where "name" is the full name of the variable requested and "n" is a subscript that distinguishes the different values returned. An exception occurs in the case of =. Variables are returned as "EQUALSIGN.", followed by the number. In all cases the value of "name.0" is the number of variables returned for that setting. EXEC 2 variables that are returned are preceded by an ampersand (&).

ACTion

returns "ON" or "OFF" to indicate whether any action other than displaying or scrolling has been taken on this file. This includes any fileid change, or file characteristic change (LRECL, RECFM, PACK, SERIAL, SIDCODE, or ALT), as well as any other changes made to the file.

```
ACTION.0        number of variables returned
       .1       ON|OFF
```

ALT

returns the number of alterations that have been made to the file since the last AUTOSAVE and SAVE, or as specified in the SET ALT subcommand.

```
ALT.0           number of variables returned
    .1          number of changes since last AUTOSAVE
    .2          number of changes since last SAVE
```

APL

returns "ON" or "OFF" as defined by the SET APL subcommand.

```
APL.0           number of variables returned
    .1          ON|OFF
```

ARBchar

returns "ON" or "OFF" and the arbitrary character specified in the SET ARBCHAR subcommand.

```
ARBCHAR.0       number of variables returned
       .1       ON|OFF
       .2       arbitrary character
```

AUtosave

returns the current setting defined in the SET AUTOSAVE subcommand: the AUTOSAVE count, fileid, the number of alterations, and the disk on which the autosave file is written.

```
AUTOSAVE.0      number of variables returned
         .1     OFF or autosave count
         .2     autosave filename
         .3     number of alterations since last
                 autosave
         .4     autosave filemode (one character)
```

BASEft

returns the base filetype specified in the LOAD subcommand or the XEDIT command (where the LOAD is implicit).

```
BASEFT.0        number of variables returned
       .1       filetype specified in the LOAD
                 subcommand or the XEDIT command
                 (where the LOAD is implicit)
                 when XEDIT is invoked.
```

CASE

returns the case setting as defined in the SET CASE subcommand.

```
CASE.0          number of variables returned
    .1          MIXED|UPPER
    .2          RESPECT|IGNORE
```

CMDline

returns "ON," "OFF," "TOP," or "BOTTOM" as specified in the SET CMDLINE subcommand and the line number designated as the command line on the screen. CMDLINE.2 is not returned when CMDLINE.1=OFF.

```
CMDLINE.0       number of variables returned
       .1       ON|OFF|TOP|BOTTOM
       .2       line number on screen
```

COLOR field|*
COLOR field

returns area of screen and its respective color, extended highlighting, and highlighting options as specified in the SET COLOR subcommand. The field may be specified as: Arrow, Cmdline, CUrline, Filearea, Idline, Msgline, Pending, PRefix, Scale, SHadow, STatarea, Tabline, TOfeof.

```
COLOR.0         number of variables returned
      .1        color
      .2        extended highlighting
      .3        HIGH|NOHIGH
```

COLOR *

returns the areas of the screen and their respective colors, extended highlighting, and highlighting options as they have been specified in the SET COLOR subcommand.

```
COLOR.0         number of variables returned
      .1        ARROW     color  exthi  HIGH|NOHIGH
      .2        CMDLINE   color  exthi  HIGH|NOHIGH
      .3        CURLINE   color  exthi  HIGH|NOHIGH
      .4        FILEAREA  color  exthi  HIGH|NOHIGH
      .5        IDLINE    color  exthi  HIGH|NOHIGH
      .6        MSGLINE   color  exthi  HIGH|NOHIGH
      .7        PENDING   color  exthi  HIGH|NOHIGH
      .8        PREFIX    color  exthi  HIGH|NOHIGH
      .9        SCALE     color  exthi  HIGH|NOHIGH
      .10       SHADOW    color  exthi  HIGH|NOHIGH
      .11       STATAREA  color  exthi  HIGH|NOHIGH
      .12       TABLINE   color  exthi  HIGH|NOHIGH
      .13       TOFEOF    color  exthi  HIGH|NOHIGH
```

COLPtr

returns "ON" or "OFF" as defined by the SET COLPTR subcommand.

```
COLPTR.0        number of variables returned
       .1       ON|OFF
```

COLumn

returns the column number of the column pointer.

```
COLUMN.0        number of variables returned
       .1       current column number
```

CTLchar [char]
CTLchar char

returns whether or not "char" is in a protected status and the color, extended highlighting and highlighting associated with "char" as specified by the SET CTLCHAR subcommand. When "char" is specified and CTLCHAR.1=OFF, then CTLCHAR.2 through CTLCHAR.4 are not returned. If SET CTLCHAR is not OFF (there are control characters defined) and just this particular character is not defined, then CTLCHAR.0 will be 0 and no other variables will be returned.

```
CTLCHAR.0       number of variables returned
        .1      PROTECT|NOPROTECT|OFF
                 (OFF means no ''chars'' defined)
        .2      color
        .3      extended highlighting
        .4      HIGH|NOHIGH|INVISIBLE
```

CTLchar

returns the escape character and all control characters, if any, defined by the SET CTLCHAR subcommand. If CTLCHAR.1="OFF," then CTLCHAR.2 and CTLCHAR.3 are not returned.

```
CTLCHAR.0       number of variables returned
        .1      ON|OFF
        .2      escape character
        .3      list of control characters (if any)
```

CURLine

If you are using a display terminal, EXTRACT /CURLINE/ returns the line number of the current line, as specified by the SET CURLINE subcommand, the contents of the current line and whether or not it has been changed or inserted during this editing session.

```
CURLINE.0       number of variables returned
        .1      M [+n|-n] | [-] n
        .2      actual line number on screen
        .3      contents of current line
                 (or null if line pointer at
                 TOF or EOF line)
        .4      ON|OFF (ON if CURLINE has been
                 changed or inserted in this
                 editing session)
```

If you are using a typewriter terminal, EXTRACT /CURLINE/ returns the contents of the current line and whether or not it has been changed or inserted during this editing session.

```
CURLINE.0       number of variables returned
        .1      -1
        .2      -1
        .3      contents of current line
                 (or null if line pointer at
                 TOF or EOF line)
        .4      ON|OFF (ON if CURLINE has been changed
                 or inserted in this editing session)
```

CURSor

returns the current and the original position of the cursor on the screen (line number and column number), the current and the original position of the cursor in the file (line number and column number), and the priority number (if assigned) as specified in the CURSOR subcommand. The current position is the position where the cursor would be placed if the screen were displayed at this time. The original position is the position of the cursor when the screen was read, which has been updated with changes due to the execution of prefix subcommands and macros. If the cursor is not in the file, then CURSOR.3 and CURSOR.4=-1. Likewise, if the cursor was not originally in the file, then CURSOR.7 and CURSOR.8=-1.

```
CURSOR.0        number of variables returned
       .1       position of cursor on screen (line number)
       .2       position of cursor on screen (col. number)
       .3       position of cursor in file   (line number)
       .4       position of cursor in file   (col. number)
       .5       original .1--original position of the
                             cursor on the screen
                             (line number)
       .6       original .2--original position of the
                             cursor on the screen
                             (column number)
       .7       original .3--original position of the
                             cursor in the file
                             (line number)
       .8       original .4--original position of the
                             cursor in the file
                             (column number)
       .9       highest priority or zero
```

DISPlay

returns the range of selection levels which are included in the display, as specified by the SET DISPLAY subcommand.

```
DISPLAY.0       number of variables returned
       .1       start of display range
       .2       end of display range
```

EFMode

returns the two-character filemode of the file at the time the file was first loaded.

```
EFMODE.0        number of variables returned
       .1       entry filemode (filemode when the XEDIT
                 environment is entered)
```

EFName

returns the eight-character filename of the file at the time the file was first loaded.

```
EFNAME.0        number of variables returned
       .1       entry filename (filename when the XEDIT
                 environment is entered)
```

EFType

returns the eight-character filetype of the file at the time the file was first loaded.

```
EFTYPE.0        number of variables returned
       .1       entry filetype (filetype when the XEDIT
                 environment is entered)
```

ENTer

returns "BEFORE," "AFTER," "ONLY," or "IGNORE" and the ENTER key definition as specified by the SET ENTER subcommand. If the ENTER key is undefined, then ENTER.0=0 and no other variables are returned.

```
ENTER.0         number of variables returned
       .1       BEFORE|AFTER|ONLY|IGNORE
       .2       ENTER key definition
```

EOF

returns "ON" or "OFF" as determined by the editor. EOF is "ON" when the line pointer reaches the end of file (or end of range) line.

```
EOF.0       number of variables returned
   .1       ON|OFF
```

EOL

returns "ON" or "OFF" as determined by the editor. EOL is "ON" when the column pointer reaches zone2+1.

```
EOL.0       number of variables returned
   .1       ON|OFF
```

ESCape

returns "ON" or "OFF" and the escape character defined by the SET ESCAPE subcommand.

```
ESCAPE.0    number of variables returned
       .1   ON|OFF
       .2   escape character
```

FILler

returns the filler character defined by the SET FILLER subcommand.

```
FILLER.0    number of variables returned
       .1   filler character
```

FLscreen

returns the line numbers of the first and last lines of the file displayed on the screen.

```
FLSCREEN.0  number of variables returned
       .1   line number of the first line of the file
             displayed on the screen
       .2   line number of the last line of the file
             displayed on the screen
```

FMode

returns the two-character filemode.

```
FMODE.0     number of variables returned
       .1   filemode
```

FName

returns the eight-character filename.

```
FNAME.0     number of variables returned
       .1   filename
```

FType

returns the eight-character filetype.

```
FTYPE.0     number of variables returned
       .1   filetype
```

FULLread

returns "ON" or "OFF" as specified by the SET FULLREAD subcommand.

```
FULLREAD.0  number of variables returned
       .1   ON|OFF
```

HEX

returns "ON" or "OFF" as specified in the SET HEX subcommand.

```
HEX.0       number of variables returned
   .1       ON|OFF
```

IMage
returns "ON," "OFF," or "CANON" as specified in the SET IMAGE subcommand.

```
IMAGE.0     number of variables returned
      .1    ON|OFF|CANON
```

IMPcmscp
returns "ON" or "OFF" as specified in the SET IMPCMSCP subcommand.

```
IMPCMSCP.0  number of variables returned
        .1  ON|OFF
```

INPmode
returns "ON" or "OFF" as determined by whether or not you are in input mode.

```
INPMODE.0   number of variables returned
        .1  ON|OFF
```

LASTLorc
returns the current contents of the last locate or change buffer, as specified either by SET LASTLORC or by the editor.

```
LASTLORC.0  number of variables returned
        .1  contents of LASTLORC buffer or null
```

LASTmsg
returns the last message that was issued by the editor. (Depending on the SET MSGMODE operands specified, this message may or may not have been displayed.) If CP SET EMSG OFF is in effect, LASTMSG is not updated, even if SET MSGMODE ON.

```
LASTMSG.0   number of variables returned
      .1    last message issued or null
```

LENgth
returns the length of the current line from column one through the truncation column (excluding trailing blanks).

```
LENGTH.0    number of variables returned
       .1   length of current line
             (Length of TOF and EOF lines is zero.)
```

LIne
returns the current line number, relative to the beginning of the file

```
LINE.0      number of variables returned
     .1     line number (in the file) of current
             line
```

LINENd
returns "ON" or "OFF" and the line end character as defined by the SET LINEND subcommand.

```
LINEND.0    number of variables returned
       .1   ON|OFF
       .2   linend character
```

LRecl

returns the logical record length of the file.

```
LRECL.0       number of variables returned
      .1      lrecl of file
```

LScreen

returns six integers--the number of lines and the number of columns in the logical screen, the line number and the column number defining the top left corner of the logical screen on the physical screen, and the number of lines and the number of columns of the physical screen.

```
LSCREEN.0     number of variables returned
        .1    number of lines on logical screen
        .2    number of columns on logical screen
        .3    line number of left corner of logical screer
        .4    column number of left corner of logical
               screen
        .5    number of lines on physical screen
        .6    number of columns on physical screen
```

MACRO

returns "ON" or "OFF" as specified by the SET MACRO subcommand.

```
MACRO.0       number of variables returned
      .1      ON|OFF
```

MASK

returns the current mask line as defined by the SET MASK subcommand.

```
MASK.0        number of variables returned
      .1      mask definition
```

MSGLine

returns "ON" or "OFF," the location of the message line, the number of lines the message line can expand to, and OVERLAY, if specified, as defined by the SET MSGLINE subcommand. If MSGLINE.1=OFF, then MSGLINE.2 through MSGLINE.4 are not returned.

```
MSGLINE.0     number of variables returned
        .1    ON|OFF
        .2    M [+n|-n] | [-] n
        .3    number of lines the message line can
               expand to for displaying a message
        .4    OVERLAY or nulls
```

MSGMode

returns "ON" or "OFF," and "LONG" or "SHORT" as defined by the SET MSGMODE subcommand.

```
MSGMODE.0     number of variables returned
        .1    ON|OFF
        .2    LONG|SHORT
```

NBFile

returns the number of files you are currently editing.

```
NBFILE.0      number of variables returned
      .1      number of files in XEDIT ring
```

NONDisp
returns the character defined by the SET NONDISP subcommand.

```
NONDISP.0       number of variables returned
       .1       nondisp character
```

NULls
returns "ON" or "OFF" as specified by the SET NULLS subcommand.

```
NULLS.0         number of variables returned
      .1        ON|OFF
```

NUMber
returns "ON" or "OFF" as specified by the SET NUMBER subcommand.

```
NUMBER.0        number of variables returned
       .1       ON|OFF
```

PA [n|*]
PAn
returns "BEFORE," "AFTER," "ONLY," or "IGNORE" and the PAn key definition as specified by the SET PAn subcommand. If the PAn key is undefined, then PAn.0=0 and no other variables are returned.

```
PAn.0           number of variables returned
PAn.1           BEFORE|AFTER|ONLY|IGNORE
PAn.2           PAn key definition
```

PA [*]
returns "BEFORE," "AFTER," "ONLY," or "IGNORE" and the PAn key definition as specified in the SET PAn subcommands for all of the PA keys. If any PA key is undefined, then PAn.0=0 and no other variables are returned for that PA key.

```
PA1.0           number of variables returned for PA1
PA1.1           BEFORE|AFTER|ONLY|IGNORE
PA1.2           PA1 key definition
PA2.0           number of variables returned for PA2
PA2.1           BEFORE|AFTER|ONLY|IGNORE
PA2.2           PA2 key definition
PA3.0           number of variables returned for PA3
PA3.1           BEFORE|AFTER|ONLY|IGNORE
PA3.2           PA3 key definition
```

PACK
returns "ON" or "OFF" as specified by the SET PACK subcommand.

```
PACK.0          number of variables returned
    .1          ON|OFF
```

PENDing [BLOCK] [OLDNAME] name|* [target1 [:1] [target2 [*]]]
returns information from the "pending list" (see SET PENDING in this publication) with respect to a particular subcommand or macro name or the first pending entry.

BLOCK

indicates that the pending list is to be checked for BLOCK entries only and will return the word "BLOCK" if one is found. "BLOCK" will also be returned if a block entry is the one found regardless of whether BLOCK was specified.

OLDNAME

indicates that the name specified is the original name of the prefix subcommand or macro.

name

indicates the name of the prefix subcommand or macro for which you are searching. IF OLDNAME is also specified, name must be the original name of the prefix subcommand or macro, regardless of whether or not a synonym has been assigned to that name. Otherwise, it is assumed to be a synonym (that is, a new name) or a name without a synonym.

*

indicates to return the first entry in the pending list. If BLOCK is also specified, * indicates to return the first block entry.

target1 target2

indicates the range in the file where the associated prefix subcommand or macro must be located. If only target1 is specified, the search will be conducted starting at target1 and will run to the end of the file. Target1 will be obtained relative to the top of the file. For example, EXTRACT /PENDING * +3 / will start at the top of the file and go 3 lines forward in the file to begin the search. Target2 will be obtained relative to target1. If target1 is line 3 and you enter a +5 as target2, then the search will be from line 3 through line 8, inclusive of both target lines. If target2 is specified prior to target1, the result will be the same as if you had specified target1 target2. For example, EXTRACT /PENDING * :10 :2/ will produce the same results as EXTRACT /PENDING * :2 :10/. If no targets are specified, the entire pending list is searched, that is, the entire file is searched, starting from the top of the file (:1).

If no pending entry is found, then PENDING.0=0 and no other variables are returned. If a target is specified and is not found, the return code from EXTRACT will be "2."

```
PENDING.0       number of variables returned
        .1      line number in the file
        .2      newname--the name entered in the prefix
                        area
        .3      oldname--the original name of the prefix
                        subcommand or macro, after
                        synonym resolution
        .4      BLOCK|null--BLOCK is returned if a prefix
                           block entry is located in the
                           pending list; otherwise,
                           nulls are returned.
        .5      op1|null--the first operand accompanying
                          the subject prefix subcommand
                          or macro
        .6      op2|null--the second operand accompanying
                          the subject prefix subcommand
                          or macro
        .7      op3|null--the third operand accompanying
                          the subject prefix subcommand
                          or macro
```

PF [n|*]
PFn

returns "BEFORE," "AFTER," "ONLY," or "IGNORE" and the PFn key definition as specified in the SET PFn subcommand. If the PFn key is undefined, then PFn.0=0 and no other variables are returned.

```
PFn.0       number of variables returned
PFn.1       BEFORE|AFTER|ONLY|IGNORE
PFn.2       PFn key definition
```

PF [*]

returns "BEFORE," "AFTER," "ONLY," or "IGNORE" and the PFn key definition as specified by the SET PFn subcommands for all of the PF keys. If any PF key is undefined, then PFn.0=0 and no other variables are returned for that PF key.

```
PF1.0       number of variables returned
             for PF1
PF1.1       BEFORE|AFTER|ONLY|IGNORE
PF1.2       PF1 key definition
PF2.0       number of variables returned
             for PF2
PF2.1       BEFORE|AFTER|ONLY|IGNORE
PF2.2       PF2 key definition
  .         .
  .         .
  .         .
PF24.0      number of variables returned
             for PF24
PF24.1      BEFORE|AFTER|ONLY|IGNORE
PF24.2      PF24 key definition
```

```
Point [*]
Point
```

returns the symbolic name(s) associated with the current line. If no names have been assigned to the current line, then POINT.0=0 and POINT.1 is not returned.

```
POINT.0       number of variables returned
     .1       line number and up to the last 100
               names assigned to the current line.
```

```
Point *
```

returns all symbolic names that have been defined, starting at the top of the file. If no names are defined, then POINT.0=0 and no other variables are returned.

```
POINT.0       number of variables returned
     .1       line number and all names on
               first named line
     .2       line number and all names on
               second named line
      .       .
      .       .
      .       .
POINT.n       line number and all names on
               nth named line
```

```
PREfix
```

returns "ON," "OFF," or "NULLS" and "RIGHT" or "LEFT" as specified in the SET PREFIX subcommand.

```
PREFIX.0      number of variables returned
      .1      ON|OFF|NULLS
      .2      RIGHT|LEFT
```

```
PREfix Synonym name|*
PREfix Synonym name
```

returns the original name associated with the prefix subcommand or macro, before synonym resolution. If "name" is not in the prefix synonym table, then oldname=name.

```
PREFIX.0      number of variables returned
      .1      oldname
```

```
PREfix Synonym *
```

returns both the old and the new names of the synonyms defined for the prefix subcommand(s) or macro(s).

```
PREFIX.0      number of variables returned
      .1      newname oldname
       .      .
       .      .
PREFIX.n      newname oldname
```

```
RANge
```

returns the line numbers of the top and bottom of the range defined by the SET RANGE subcommand.

```
RANGE.0       number of variables returned
     .1       line number of the first line
               in range
     .2       line number of the last line
               in range
```

RECFm

returns the record format, "F," "V," "FP," or "VP," defined by the SET RECFM subcommand.

```
RECFM.0      number of variables returned
     .1      record format of file
```

REMOte

returns "ON" or "OFF" depending upon whether or not a remote terminal is being used or upon the setting defined by the SET REMOTE subcommand.

```
REMOTE.0     number of variables returned
      .1     ON|OFF
```

RESERved [*]
RESERved

returns a list of line numbers of screen lines currently reserved. If no RESERVED lines have been defined, then RESERVED.0=0 and no other variables are returned.

```
RESERVED.0    number of variables returned
        .1    list of reserved line numbers
```

RESERved *

returns the line numbers of the screen lines currently reserved and the colors, extended highlighting, highlighting, and text associated with those reserved lines as specified by the SET RESERVED subcommand. If no RESERVED lines have been defined, then RESERVED.0=0 and no other variables are returned.

```
RESERVED.0      number of variables returned
        .1      linenum color exthi HIGH|NOHIGH text
        .2      linenum color exthi HIGH|NOHIGH text
         .
         .
         .
        .n      linenum color exthi HIGH|NOHIGH text
```

RING

returns the number of files you are editing and the file identification area for each file.

```
RING.0      number of variables returned
    .1      number of files in the ring
    .2      file identification line of the
             first file
    .3      file identification line of the
             second file
     .      .
     .      .
     .      .
    .n      file identification line of the
             nth-1 file
```

SCALe
returns "ON" or "OFF" and the position of the SCALE as specified by the SET SCALE subcommand (or SCALE prefix subcommand) and the line number of the scale on the screen. If SCALE is "OFF," only SCALE.0 and SCALE.1 are returned.

```
SCALE.0      number of variables returned
     .1      ON|OFF
     .2      M [+n|-n] | [-] n
     .3      line number on screen
```

SCOPE
returns "DISPLAY" or "ALL" as specified by the SET SCOPE subcommand.

```
SCOPE.0      number of variables returned
     .1      ALL|DISPLAY
```

SCReen
returns the attributes of the screens that have been defined by the SET SCREEN subcommand.

```
SCREEN.0     number of variables returned
      .1     SIZE|WIDTH|DEFINE screen definition
```

SELect
returns the selection level of the current line and the maximum selection level for the file as specified by the SET SELECT subcommand.

```
SELECT.0     number of variables returned
      .1     selection level of current line
      .2     maximum selection level in the file
```

Seq8
returns "OFF" if the XEDIT command or LOAD subcommand was issued with the NOSEQ8 operand; if not, returns "ON."

```
SEQ8.0       number of variables returned
     .1      ON|OFF
```

SERial
returns the serial identification, the increment value, and the serial number starting value as defined by the SET SERIAL subcommand.

```
SERIAL.0     number of variables returned
      .1     serial or OFF
      .2     increment
      .3     start number
```

SHADow
returns "ON" or "OFF" as specified by the SET SHADOW subcommand.

```
SHADOW.0     number of variables returned
      .1     ON|OFF
```

SIDcode
returns the eight-character string specified in the SIDCODE option of the XEDIT command, the LOAD subcommand, or the SET SIDCODE subcommand.

```
SIDCODE.0    number of variables returned
      .1     eight-character sidcode
              string(if specified) or blanks
```

SIZe

returns the number of records in the file being edited.

```
SIZE.0      number of variables returned
    .1      number of records in file
```

SPAN

returns "ON" or "OFF," "BLANK" or "NOBLANK," and n as defined in the SET SPAN subcommand.

```
SPAN.0      number of variables returned
    .1      ON|OFF
    .2      BLANK|NOBLANK
    .3      n--number of consecutive file lines
               that a character string can span
```

SPILL

returns "ON," "OFF," or "WORD" as defined by the SET SPILL subcommand.

```
SPILL.0     number of variables returned
    .1      ON|OFF|WORD
```

STAY

returns "ON" or "OFF" as specified in the SET STAY subcommand.

```
STAY.0      number of variables returned
    .1      ON|OFF
```

STReam

returns "ON" or "OFF" as specified in the SET STREAM subcommand.

```
STREAM.0    number of variables returned
    .1      ON|OFF
```

SYNonym

returns "ON" or "OFF" as specified in the SET SYNONYM subcommand.

```
SYNONYM.0   number of variables returned
    .1      ON|OFF
```

SYNonym name|*
SYNonym name

returns the synonym, its minimum abbreviation (returned as the number of letters in the minimum abbreviation), the associated synonym definition, and the linend character, if it has been specified. If no synonym is defined, then SYNONYM.1 and SYNONYM.3 are set equal to the name of the synonym, SYNONYM.2 is set to the length of the name and SYNONYM.4 is set to null.

```
SYNONYM.0   number of variables returned
    .1      name
    .2      length of minimum abbreviation
    .3      definition
    .4      linend character (if specified) or null
```

SYNonym *

returns for each defined synonym its name, its minimum abbreviation (returned as the number of letters in the minimum abbreviation), and the associated synonym definition (that is, everything that was specified in the SET SYNONYM subcommand).

```
SYNONYM.0       number of variables returned
       .1       name abbrev. [LINEND char]
                 definition
       .2       name abbrev. [LINEND char]
                 definition
        .       .
        .       .
       .n       name abbrev. [LINEND char]
                 definition
```

TABLine

returns "ON" or "OFF," and the position of the TABLINE as specified by the SET TABLINE subcommand (or TABL prefix subcommand) and the line number of the tabline on the screen. If TABLINE is "OFF," only TABLINE.0 and TABLINE.1 are returned.

```
TABLINE.0       number of variables returned
       .1       ON|OFF
       .2       M [+n|-n] | [-] n
       .3       line number on screen
```

TABS

returns the tab column numbers defined by the SET TABS subcommand.

```
   TABS.0       number of variables returned
       .1       tab columns
```

TARGet

returns the following information about the character string that matches the last target located via a LOCATE or CLOCATE: line and column number of the first character in the string, and line and column number of the last character in the string.

returns the following information about targets that have been specified as an absolute line number, a relative displacement from the current line, or a line name: line number and current column position (twice).

If the last target located was specified with "&," then only information about the last string found is returned. For example, if the last target located was a result of issuing the following command:

```
LOCATE /a/ & /try/
```

and the line located,

```
This try is even a better one
|...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
```

is on line 11 in the file and begins in column 1, EXTRACT /TARGET/ would return the following values.

```
TARGET.0=4
TARGET.1=11 (line number that contains "t")
TARGET.2=6 (column number that contains "t")
TARGET.3=11 (line number that contains "y")
TARGET.4=8 (column number that contains "y")
```

These values are returned because "try" is the last string found in the target.

Information returned by EXTRACT/TARGET/ is only guaranteed to be valid when the EXTRACT is done immediately following the LOCATE or CLOCATE of the target. Any XEDIT subcommand issued between the LOCATE or CLOCATE of the target and the EXTRACT has the potential to invalidate the TARGET information.

```
TARGET.0      number of variables returned
      .1      line number of first character
      .2      column number of first character
      .3      line number of last character
      .4      column number of last character
```

TERMinal

returns "DISPLAY" or "TYPEWRITER" as defined in the SET TERMINAL subcommand.

```
TERMINAL.0    number of variables returned
         .1   DISPLAY|TYPEWRITER
```

TEXT

returns "ON" or "OFF" as specified in the SET TEXT subcommand.

```
TEXT.0        number of variables returned
     .1       ON|OFF
```

TOF

returns "ON" or "OFF" as determined by the editor. TOF is "ON" when the line pointer reaches the top of file (or top of range) line.

```
TOF.0         number of variables returned
    .1        ON|OFF
```

TOFEOF

returns "ON" or "OFF" as specified in the SET TOFEOF subcommand.

```
TOFEOF.0      number of variables returned
       .1     ON|OFF
```

TOL

returns "ON" or "OFF" as determined by the editor. TOL is "ON" when the column pointer reaches zone1-1.

```
TOL.0         number of variables returned
    .1        ON|OFF
```

TRANSLat

returns "ON" or "OFF," depending on whether or not the user has defined pairs of uppercase translate characters using the SET TRANSLAT subcommand.

```
TRANSLAT.0    number of variables returned
         .1   ON|OFF
```

TRunc
returns the truncation column number as defined by the SET TRUNC subcommand.

```
TRUNC.0      number of variables returned
      .1     truncation column number
```

UNIQueid
returns the unique identifier associated with the file. The identifier has the form 'rrrnnnnn' where 'rrr' is the number of times XEDIT was called recursively and 'nnnnn' is the current autosave number. The uniqueid is also used as the filename for the AUTOSAVE file.

```
UNIQUEID.0      number of variables returned
        .1      unique identifier associated
                 with this file
```

UNTil
returns the filetype up through which updates were applied as specified on the XEDIT command or LOAD subcommand.

```
UNTIL.0      number of variables returned
      .1     filetype(if specified) or blanks
```

UPDate
returns "ON" or "OFF" as determined by the editor. Update is "ON" when the XEDIT command or LOAD subcommand has been issued and the UPDATE option was specified or implied.

```
UPDATE.0      number of variables returned
      .1      ON|OFF
```

VARblank
returns "ON" or "OFF" as specified in the SET VARBLANK subcommand.

```
VARBLANK.0      number of variables returned
        .1      ON|OFF
```

Verify
returns the verification columns and "ON" or "OFF" as specified in the SET VERIFY subcommand.

```
VERIFY.0      number of variables returned
      .1      ON|OFF
      .2      columns
```

VERShift
returns n or -n, which is the relative position of the screen over the file, as a result of any LEFT or RIGHT subcommands.

```
VERSHIFT.0      number of variables returned
        .1      n|-n
```

Width
returns the WIDTH value specified in the XEDIT command or LOAD subcommand.

```
WIDTH.0      number of variables returned
      .1     width of file
```

WRap

returns "ON" or "OFF" as specified in the SET WRAP subcommand.

```
WRAP.0      number of variables returned
    .1      ON|OFF
```

Zone

returns the left and right zone column numbers specified in the SET ZONE subcommand.

```
ZONE.0      number of variables returned
    .1      left zone
    .2      right zone
```

=

returns the string in the equal(=) buffer. The = buffer contains the last executed subcommand or macro, or whatever has been specified in the SET = subcommand.

```
EQUALSIGN.0      number of variables returned
          .1     the string in the = buffer
```

Notes for Macro Writers:

1. The number of variables returned by EXTRACT may depend upon whether the setting is "ON" or "OFF" or whether the settings were requested on a typewriter terminal. The following settings return a value of "name.0=0" on a typewriter terminal. No other variables associated with that setting will be initialized:

   ```
   CMDLINE     LSCREEN     SCREEN
   CURSOR      MSGLINE     TABLINE
   FLSCREEN    SCALE
   ```

2. If an error occurs while processing the request specified on the EXTRACT subcommand, a non-zero return code is returned and an error variable, EXTRACT.n is set. EXTRACT.0 and EXTRACT.1 are set on return codes 2, 5 and 16 only. EXTRACT.0 is always set to the number of error variables that are returned. If the return code is 2 or 5, then EXTRACT.1 is set to the delimited string which was invalid (return code 5) or the delimited string containing a target that was not found (return code 2) when EXTRACT was invoked. All values prior to the one specified in EXTRACT.1 will have been processed, while those following the one in error will not.

   However, when the return code is 16, EXTRACT.1 is set to the name of the variable which was too long for the EXEC 2 restriction of a maximum value length of 256 characters. For example, if one is editing a file with a current line that is longer than 256 characters, and an EXTRACT /CURLINE/ is issued, then EXTRACT.1 will be set to "CURLINE.3". The setting of any other variables resulting from that invocation of EXTRACT is unpredictable. EXTRACT.1 does not give an indication of what has or has not been set in this case.

3. If EXTRACT is issued when an EXEC or XEDIT macro is not active, a return code of -3 will be set and error message 631E (EXTRACT CAN ONLY BE ISSUED FROM AN EXEC 2 OR REXX EXEC) will be issued. If XEDIT is invoked from an EXEC or XEDIT macro, then that EXEC or macro is

"active" until you exit from XEDIT and subsequently from the EXEC or macro. Issuing EXTRACT from the XEDIT command line may set variables in the EXEC or macro that invoked XEDIT.

Error Messages:

```
545E  MISSING OPERAND(S),RC=5
622E  INSUFFICIENT FREE STORAGE
      FOR {EXTRACT|EXECCOM},RC=104
631E  EXTRACT CAN ONLY BE EXECUTED FROM AN EXEC 2 OR REXX
      EXEC,RC=-3
698E  TARGET STRING TOO LONG, UNABLE
      TO PARSE THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

-3 Invalid when issued from an environment other than EXEC 2 or REXX
2 Target not found
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
16 EXEC 2 variable greater than 256 characters

Examples:

1. If you edit a new file with a default record length of 80 and issue:

   ```
   SET LRECL 65
   ```

   and then execute an XEDIT macro which issues:

   ```
   EXTRACT /ACTION/

   The following variables are set:  ACTION.0 = 1
                                     ACTION.1 = ON
   ```

2. If you edit a new file SAMPLE FILE A and then execute an XEDIT macro which issues:

   ```
   EXTRACT ?COL?fname?pf3?

   The following variables are set: COLUMN.0 = 1
                                    COLUMN.1 = 1
                                    FNAME.0  = 1
                                    FNAME.1  = SAMPLE
                                    PF3.0    = 2
                                    PF3.1    = BEFORE
                                    PF3.2    = QUIT
   ```

3. While editing a file you make line 6 the current line. There are no entries in the pending list. You then execute an XEDIT macro which issues:

   ```
   SET PENDING BLOCK 3WW57
   EXTRACT !pending block * :2 +5!

   The following variables are set: PENDING.0 = 7
                                    PENDING.1 = 6
                                    PENDING.2 = WW
                                    PENDING.3 = WW
                                    PENDING.4 = BLOCK
                                    PENDING.5 = 3
                                    PENDING.6 = 57
                                    PENDING.7 = null
   ```

4. While editing a file you execute an XEDIT macro which issues:

```
SET CASE MIXED RESPECT
EXTRACT ¢CASE¢COLOR ALL¢AUTOSAVE¢

The following variables are set: CASE.0 = 2
                                 CASE.1 = MIXED
                                 CASE.2 = RESPECT
                               EXTRACT.0 = 1
                               EXTRACT.1 = COLOR ALL
```

   Note: Notice that nothing is returned for AUTOSAVE (see usage note 2).

5. While editing a file on a typewriter terminal, you insert a line containing the following text:

```
Professor Twist could not but smile.
```

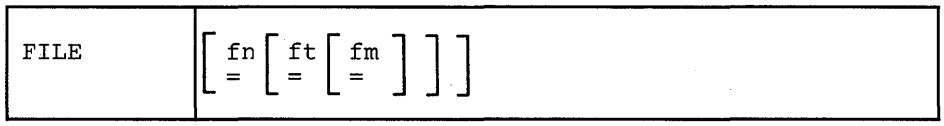
   With the line you just added being the current line, you then execute an XEDIT macro which issues:

```
    EXTRACT %SCALE%CURLINE%

The following variables are set:

          SCALE.0 = 0
        CURLINE.0 = 4
        CURLINE.1 = -1
        CURLINE.2 = -1
        CURLINE.3 = Professor Twist could not but smile.
        CURLINE.4 = ON
```

FILE

Use the FILE subcommand to write the edited file on disk and, optionally, to override the file identifier originally supplied in the XEDIT command.

The format of the FILE subcommand is:



where:

`fn`
: indicates the filename for the file. If you do not specify fn (or =), ft and fm cannot be specified, and the existing filename, filetype, and filemode are used.

`ft`
: indicates the filetype for the file.

`fm`
: indicates the filemode for the file.

Usage Notes:

1. You can change the filename, filetype, and filemode during an editing session by using the SET FNAME, SET FTYPE, and SET FMODE subcommands (as well as specifying a different file identifier on the FILE subcommand).

2. If you change the file identifier (to a unique file identifier) and the file being edited had been previously written to disk, that copy of the file is not altered.

   However, if you change the file identifier while editing a file so that it is identical to that of an **existing** file, the editor stops the FILE operation and displays the following warning:

   ```
   594E FILE 'fn ft fm' ALREADY EXISTS. USE FFILE/SSAVE.
   ```

   If you want to write over the existing file, enter FFILE (abbreviated as FF). If not, change the file identifier so that it is unique and re-issue the FILE subcommand.

   This "protected FILE" works in the following way. FILE is defined as a synonym to PFILE, which is the protected equivalent of FILE. FFILE is a synonym for COMMAND FILE.

3. An equal sign (=) may be used for any operand. Using an equal sign means that the corresponding value of the current file is to be used.

4. If the FILE subcommand is issued for a file whose temporary copy in virtual storage has no records (that is, it is empty), the permanent copy of the file on disk is not changed. The following message is displayed and the editor is exited:

   ```
   559W WARNING: FILE IS EMPTY
   ```

Notes for Macro Writers:

1. If FILE is issued from a macro, the file is written to disk, but control remains in the macro. When the macro finishes executing, control is returned to the editor.

   If multiple files were being edited, only the current file is written to disk and is removed from the set of files being edited.

   If only one file was being edited, a FILE issued from a macro sets the return code to 1 and executes the FILE when the macro completes execution. After issuing the FILE, any subcommands issued in the macro will result in a return code of 6.

2. You cannot issue FILE, FFILE or PFILE from a prefix macro. However, if you issue a FILE, which consists of a SAVE and a QUIT, the SAVE will be performed and you will receive error message 509E on the QUIT.

Responses:

If only one file was edited, the CMS ready message indicates that the file has been written to disk, and the user is returned to the CMS environment.

If more than one file was being edited, the current file is written on disk and then is removed from the set of files being edited.

On a typewriter terminal, the following message is displayed:

```
553I  EDITING FILE:  fn ft fm
```

Error Messages:

```
037E DISK 'mode' IS READ ONLY.,RC=12
048E INVALID MODE 'mode'.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
069E DISK 'mode' NOT ACCESSED,RC=36
509E 'subcommand' SUBCOMMAND NOT VALID FROM A PREFIX
     MACRO,RC=4
520E INVALID OPERAND : operand,RC=5
531E DISK IS FULL. SET NEW FILEMODE OR CLEAR
     SOME DISK SPACE.,RC=13
594E FILE 'fn ft fm' ALREADY EXISTS. USE FFILE/SSAVE.,RC=3
105S ERROR 'nn' WRITING FILE 'fn ft fm' ON DISK,RC=100
598S UNABLE TO BUILD UPDATE FILE : INTERNAL
     LIST DESTROYED.,RC=7
599S UNABLE TO BUILD UPDATE FILE : SERIALIZATION
     DESTROYED.,RC=7
```

Return Codes:

0	Normal
1	File has been filed and was the only one edited
3	File already exists
4	Invalid when issued from a prefix macro
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
7	Error building the update file
12	Disk defined in filemode is read-only
13	Disk is full
20	Invalid character in filename or filetype
24	Invalid filemode
36	Disk not accessed
100	Error writing file to disk

FIND

Use the FIND subcommand to search forward in the file for the first line that starts with the text specified in the operand. Only the non-blank characters in the operand are checked against the file. The search starts with the line following the current line.

The format of the FIND subcommand is:

`Find`	`text`

where:

`text`
is any text that you expect to find, beginning in column one of the next file line. If text contains imbedded blanks, those character positions in the file line are not checked.

Usage Notes:

1. If the SET IMAGE ON subcommand has been issued, tab characters are converted to blanks (or filler characters) before the search is made. In addition, the search starts in the first tab column.

2. Use an underscore character (_) in the operand to specify that a blank character should be present in a line.

3. Only one blank can be used as a delimiter following the FIND subcommand; the operand starts after the blank.

4. See also FINDUP, NFIND, and NFINDUP.

5. If the subcommand SET WRAP OFF has been issued, the search will continue until the end of file.

   If the subcommand SET WRAP ON has been issued, the search will continue through the entire file and stop when the line where it started is reached again. When a wrap occurs under these conditions, the following warning message is displayed:

   ```
   592W WRAPPED ....
   ```

6. The FIND subcommand updates the LASTLORC buffer. Refer to the SET LASTLORC subcommand in this publication.

Responses:

If text is found, the line containing the specified text becomes the new current line.

Error Messages:

```
545E MISSING OPERAND(S),RC=5
586E NOT FOUND,RC=2
592W WRAPPED ....
```

Return Codes:

0	Normal
2	No line was found
5	Missing operand(s)
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

---

Examples:

Current Line:

```
===== Dingoes are wild dogs of Australia.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====           .
=====           .
===== They are called Dingoes.
=====           .
=====           .
=====           .
===== Dingoes do not bark.
```

`Find Ding` (text must start in column one of a line)

New Current Line:

```
===== Dingoes do not bark.
```

FINDUP

Use the FINDUP subcommand to search *backward* in the file for the first line that starts with the text specified in the operand. Only the non-blank characters in the operand are checked against the file. The search starts with the line preceding the current line.

The format of the FINDUP subcommand is:

FINDUp FUp	text

where:

`text`
is any text that you expect to find beginning in column one of a file line that appears before the current line. If text contains imbedded blanks, the corresponding character positions in the file are not checked.

Usage Notes:

1. If the SET IMAGE ON subcommand has been issued, tab characters are converted to blanks (or filler characters) before the search is made. In addition, the search starts in the first tab column.

2. Use an underscore character (_) in the operand to specify that a blank character should be present in a line.

3. Only one blank can be used as a delimiter following the subcommand; the operand starts after the blank.

4. See also FIND, NFIND, and NFINDUP.

5. If the subcommand SET WRAP OFF has been issued, the search will continue until the top of file.

   If the subcommand SET WRAP ON has been issued, the search will continue through the entire file and stop when the line where it started is reached again. When a wrap occurs under these conditions, the following warning message is displayed:

   ```
   592W WRAPPED ....
   ```

6. The FINDUP subcommand updates the LASTLORC buffer. Refer to the SET LASTLORC subcommand in this publication.

Responses:

If text is found, the line containing the specified text becomes the new current line.

Error Messages:

```
545E MISSING OPERAND(S),RC=5
586E NOT FOUND,RC=2
592W WRAPPED ....
```

Return Codes:

0	Normal
2	No line was found
5	Missing operand(s)
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

FORWARD

Use the FORWARD subcommand to scroll toward the end of a file for a specified number of screen displays.

The format of the FORWARD subcommand is:

FOrward	[n|*|1]

where:

n
: is the number of screen displays you want to scroll forward. If you specify an asterisk, the line pointer moves to the "END OF FILE" line. If you omit n, the screen scrolls forward for one display.

Usage Note:

The FORWARD subcommand is assigned by the editor to the PF8 key.

Responses:

If you issue the FORWARD subcommand when the current line is the last line of the file, the END OF FILE line becomes the new current line. If you issue the FORWARD subcommand when the current line is the END OF FILE line, the editor "wraps around" the file, making the first line of the file the new current line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
543E INVALID NUMBER : xxxxxxxx,RC=5
```

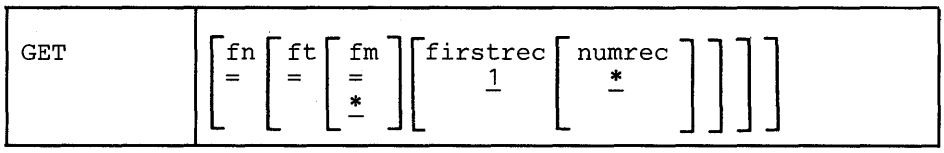
Return Codes:

0 Normal
1 End of file reached (subsequent FORWARD restarts at top of file)
3 Terminal is not a display
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

GET

Use the GET subcommand to insert all or part of a specified CMS file after the current line of the file that you are editing. You can also use the GET subcommand *without operands* to insert lines saved by a previous PUT or PUTD subcommand.

The format of the GET subcommand is:



where:

`fn`
: is the filename of the file that contains the data to be inserted into the file you are editing.

`ft`
: is the filetype of the file that contains the data to be inserted. If ft is not specified, the filetype of the file you are editing is assumed.

`fm`
: is the filemode of the file that contains the data to be inserted. If you do not specify fm, all of your accessed disks are searched for the file.

`firstrec`
: indicates the record number of the first record you want to insert. If firstrec is not specified, the first record in the file is the default.

`numrec`
: indicates the number of lines to be inserted, starting with the line specified by firstrec. If numrec is not specified, or is specified as *, then the remainder of the file between firstrec and the end of the file is inserted.

Usage Notes:

1. The GET operand list is positional; if you omit one operand *except* for filemode, which is optional, you cannot specify any operands that follow. Therefore, if you want to specify firstrec and numrec, you must specify the filename and filetype of the file.

2. If you do not specify firstrec and numrec, the editor inserts the entire file.

3. If the record length of the records in the file containing the data to be inserted exceeds that of the file being edited, records are truncated and a message is displayed, unless SET SPILL ON or SET SPILL WORD has been issued. In that case, a message is displayed indicating that the text has been spilled, and the characters beyond the record length are inserted in the file as one or more lines, starting with the first character or word that would have gone beyond the record length. If the record length is shorter, the records are padded with blanks to the record length of the file being edited and inserted in the file.

4. If the editor fills up available storage while executing a GET request, it may not be able to copy all of the file.

5. The operands fn, ft, or fm may be specified using an equal sign (=), in which case the corresponding value in the file being edited is used.

6. If you issue a GET subcommand for a file that is in packed format, the editor does not unpack the file.

Responses:

The last line inserted becomes the new current line.

When the end of the file that is being inserted is reached, the following message is displayed:

```
564W  EOF REACHED
```

Error Messages:

```
002E FILE 'fn ft fm' NOT FOUND.,RC=28
048E INVALID MODE 'mode'.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
069E DISK 'mode' NOT ACCESSED,RC=36
156E 'RECORD nn' NOT FOUND - FILE 'fn ft fm' HAS ONLY
     'nn' RECORDS.,RC=32
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
562E NO LINE(S) SAVED BY PUT(D) SUBCOMMAND.,RC=28
104S ERROR 'nn' READING FILE 'fn ft fm' FROM DISK,RC=100
557S NO MORE STORAGE TO INSERT LINES,RC=4
563W RECORDS {TRUNCATED|SPILLED},RC=3
564W EOF REACHED
565W EOF REACHED; RECORDS {TRUNCATED|SPILLED},RC=3
```

Return Codes:

0	Normal
3	Truncated or spilled
4	No more storage available to insert lines
5	Invalid operand or (line) number
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
20	Invalid character in filename or filetype
24	Invalid filemode
28	File not found
32	Record "firstrec" is beyond end of file
36	Disk not accessed
100	Error from rdbuf

Examples:

The following are valid ways to issue a GET subcommand:

```
GET
```

(insert all lines previously stored by a PUT or PUTD)

```
GET FILE2 DATA
```

(insert the entire file, FILE2 DATA, after current line of this file)

```
GET FILE2 DATA 1 10
```

(insert the first ten lines of FILE2 DATA)

The following sequence illustrates how to use GET and PUT to transfer data between files, when editing multiple files:

1. `XEDIT FILE1 MINE`

   This file appears on the screen.

   Position the line pointer at the line after which you want to insert lines.

2. `XEDIT FILE2 DATA`

   This file now appears on the screen.

   The status area indicates that you are editing two files.

   Move the line pointer to the beginning of lines to be inserted, using, for example, CLOCATE, UP, NEXT, etc.

3. `PUT target`

   Stores lines from current line up to the target line.

4. `QUIT`

   The first file, FILE1 MINE, re-appears on the screen.

5. `GET` (no operands)

   The lines are inserted.

HELP

Use the HELP subcommand: to display a list of all XEDIT subcommands and macros; to display descriptions, formats, and parameters of XEDIT subcommands and macros; or to invoke the CMS HELP command.

The format of the HELP subcommand is:

`Help`	`[MENU|HELP|name]`

where:

MENU
: displays a list of all XEDIT subcommand names and XEDIT macro names.

HELP
: displays how to use the XEDIT subcommand HELP.

name
: can be any XEDIT subcommand name or XEDIT macro name, and causes a description of the subcommand or macro to be displayed. If name is not an XEDIT subcommand or macro, the entire HELP subcommand is transferred to the CMS HELP command, and it must follow the CMS HELP command syntax (refer to the publication *VM/SP CMS Command and Macro Reference*).

Usage Notes:

1. XEDIT subcommand or macro abbreviations cannot be used in the name operand. The MENU will provide you with the full name.

2. Use the CMS HELP command format to display information on CMS as well as XEDIT error messages. For example:

   ```
   HELP DMSnnnt
   ```

   where nnn is a message number and t is the message type.

3. HELP SET will display a menu for all the SET options.

4. HELP PREFIX will display a menu for all the prefix subcommands and macros.

5. HELP MENU is initially set to the PF1/PF13 key.

Error Messages:

From the CMS HELP facility.

Return Codes:

0	Normal
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
any number >10	Standard CMS HELP command return codes

HEXTYPE (Macro)

Use the HEXTYPE macro to display a specified number of lines in both hexadecimal and EBCDIC.

The format of the HEXTYPE macro is:

HEXType	[target|1]

where:

`target`
defines the number of lines to be displayed in both hexadecimal and EBCDIC. The display starts with the current line and goes up to but does not include the target line. If you specify an asterisk (*), the rest of the file is displayed both ways. If you omit target, only the current line is displayed both ways.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Response:

Each line specified is displayed first in hexadecimal and then in EBCDIC.

The line pointer moves to the last line typed.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND,RC=2
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
1 TOF or EOF reached
2 Target line not found
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Current Line:

```
===== To be or not to be -
```

`HEXTYPE` (display the current line in hexadecimal and character)

```
E3964082 85409699 409596A3 40A39640 82854060
 T o   b  e   o r   n o t   t o   b  e  -
```

INPUT

Use the INPUT subcommand to insert a single line into a file, or, if no data line is specified, to leave edit mode and enter input mode.

The format of the INPUT subcommand is:

`Input`	`[line]`

where:

`line`
is the input line to be entered into the file. It can contain blanks and tabs, which are converted to blanks if the SET IMAGE ON subcommand has been issued. The line is inserted after the current line, with the first character in the first tab column (only if SET IMAGE ON is in effect) and becomes the new current line. If you enter at least two blanks following the INPUT subcommand (and no additional text), a blank line is inserted into the file.

The preceding description applies when the INPUT subcommand is entered in the form "INPUT line." Input mode (INPUT entered with no operand) is described below.

Usage Notes:

1. When you issue the INPUT subcommand without an operand, the screen display changes in the following ways:

   a. The phrase "573I INPUT MODE:" appears in the message area, and "INPUT-MODE" appears in the status area of the screen.

   b. The phrase * * * INPUT ZONE * * * appears in the command line.

   c. The prefix area disappears from the display.

   d. All file lines following the current line disappear from the display. Lines pre-filled with blanks appear in their place. (You can use the SET MASK subcommand to fill this area with something other than blanks.) This blank area, between the current line and the command line, is the input zone.

   e. The cursor is placed on the first line of the input zone, which is the blank line immediately following the current line. You can then type in new lines of data in the input zone.

      Only data typed in the columns defined by the SET VERIFY subcommand and up through the truncation column (defined by the SET TRUNC subcommand) is accepted. Data that is entered beyond the truncation column or outside the current SET VERIFY settings is lost.

2. When you fill up the screen but wish to stay in input mode and type in more lines, press the ENTER key once. The lines that you typed move to the top half of the screen, with the last line you typed becoming the new current line; it

is followed by blank lines. If AUTOSAVE is set for your editing session, you may receive the message, "510I AUTOSAVED AS 'fn ft fm'", depending on the value set on the SET AUTOSAVE subcommand.

3. When you are finished typing in data and want to return to edit mode, press the ENTER key twice. The last line you typed in input mode becomes the current line, the screen layout is restored, the phrase "587I XEDIT:" appears in the message area, and "X E D I T" appears in the status area of the screen. (If you did not type in new lines while in input mode, you can return to edit mode by pressing the ENTER key once.)

4. You can vary the size of the input zone by using the SET CURLINE subcommand to change which line on the screen is the current line. For a larger input zone, move the current line to the top of the screen; for a smaller input zone, move the current line lower on the screen.

   If you move the current line to the last available line in the file area, you cannot enter data unless you also move the command line (by using the SET CMDLINE subcommand.) In general, you should leave space between the current line and the bottom of the screen for input mode.

5. If you issue an INPUT subcommand when the current line is the END OF FILE line, the lines are inserted after the last file line.

6. When you use PF or PA keys in input mode, the editor automatically exits from input mode, enters edit mode to execute the subcommand associated with the PF or PA key, and returns to input mode. Therefore, you should carefully select which PF or PA keys you use in input mode. For example, if you press a PF key assigned to the FORWARD subcommand, the editor scrolls the screen forward and then returns you to input mode, but the input area will be on the next screen. In addition, some PF or PA keys are meaningless when used in input mode, for example, a PF key assigned to the ? subcommand.

   PF or PA keys that are particularly useful in input mode are those assigned to TABKEY, SPLTJOIN (or SPLIT and JOIN), NULLKEY, and RGTLEFT.

7. On a typewriter terminal:

   a. Pressing the RETURN key causes any line that is typed in to be inserted into the copy of the file that is kept in storage.

   b. If the SET IMAGE ON subcommand has been issued, tabs are converted to blanks before a line is inserted into the file.

   c. The editor interprets a line that has an escape character in column 1 (see the SET ESCAPE subcommand) as an XEDIT subcommand. The subcommand is executed and input mode is re-entered automatically. (You cannot use SET ESCAPE on a display terminal.)

   d. Enter a null line to leave input mode and return to edit mode.

8. If SET HEX ON is in effect, the line can be specified in hexadecimal. For example, INPUT X'C1C2C3'.

9. When the INPUT subcommand is entered with text specified (that is, in the form "INPUT line"), and SET SPILL OFF is in effect (the default), characters entered beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters entered beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

   When the INPUT subcommand is entered with no text specified (that is, in the form "INPUT") and input mode is entered, data is handled as described in usage note 1, above.

10. If you enter the LINEND symbol while in input mode and press the ENTER key, your line will not be entered as separate lines in the file. Instead, it will be shown as a string with the LINEND symbol appearing literally.

11. When you are at the end of file (or end of range), and you enter the INPUT subcommand, the last line of the file (or range) is displayed as the current line, even if that line is not within the defined scope.

Responses:

In input mode, if you try to input APL or TEXT characters and you did not set the APL or TEXT option on, you will receive the following warning:

```
WARNING: APL/TEXT OPTION NOT IN EFFECT
```

Also, the APL characters may not be inserted into the file correctly.

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
557S NO MORE STORAGE TO INSERT LINES.,RC=4
614E SCREEN MODIFICATIONS LOST.  'SET FULLREAD ON'
     TO USE PAKEYS SAFELY
```

Return Codes:

0 Normal
3 Truncated or spilled
4 No more space available to add lines
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

JOIN (Macro)

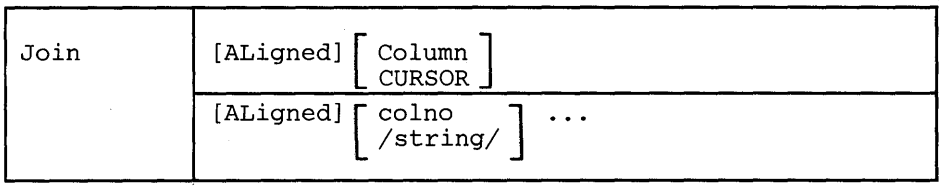
Use the JOIN macro to combine two or more lines into one replacement line.

The first format enables you to join two lines at the column pointer or at the cursor.

The second format enables you to join two or more lines at a specified column number(s) or to insert a specified character string(s) before appending the next line.

In all cases, the lines that are appended (the original lines) are deleted. However, if data precedes zone1 (see SET ZONE), only the data following zone 1 is deleted.

The format of the JOIN macro is:



where:

`no operand`
joins the current line and the next line. The next line is appended after the first trailing blank in the current line.

`ALigned`
removes up to the same number of leading blanks from the line being joined as there are on the line to which it is appended.

`Column`
joins the current line and the next line, which overlays the current line starting at the column pointer. The line pointer and the column pointer remain unchanged.

`CURSOR`
joins the line containing the cursor and the next line, which overlays the line starting at the cursor position. JOIN CURSOR is most useful when assigned to a PF key.

`colno`
specifies a column number in the current line where the next line is to be appended. Subsequent consecutive lines are appended to (and overlay the contents of) the current line for as many times as there are column numbers (colno) specified.

`/string/`
inserts the specified string (without delimiters) in the current line, starting at the first trailing blank location. Then the next line is appended after the string. This process is repeated for as many times as there are /string/ operands specified.

Usage Notes:

1. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column. For the JOIN macro, SET SPILL OFF (the default) has the same effect as SET SPILL ON. JOIN does not truncate data.

2. The original lines that are appended as a result of a JOIN macro are deleted, unless data precedes zone 1 (see SET ZONE). In this case only the data following zone 1 is deleted.

3. Before using JOIN COLUMN, check to see if the column pointer is in the desired location, because the next line is appended starting at the column pointer. Use the CLOCATE subcommand to move the column pointer, if necessary.

4. The line pointer and column pointer remain unchanged.

5. JOIN is the converse of SPLIT. See also SPLTJOIN, which combines SPLIT and JOIN.

6. The cursor or the column number or string specified must fall within the current zones.

Error Messages:

```
503E SPILLED,RC=3
520E INVALID OPERAND : operand,RC=5
526E OPTION 'CURSOR' VALID IN DISPLAY MODE ONLY,RC=3
561E CURSOR IS NOT ON A VALID DATA FIELD,RC=1
575E INVALID ARGUMENT OR JOIN COLUMN(S) DEFINED,RC=5
585E NO LINE(S) CHANGED,RC=1
685E JOINED LINE(S) EXCEED ZONE SETTINGS,RC=5
564W EOF REACHED,RC=1
```

Return Codes:

0 Normal
1 No line(s) changed or cursor is not on a valid data field
3 Spilled
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Using JOIN CURSOR Assigned to the PF11 key:

```
===== This line is _
===== too short.
```

Note position of the cursor (_) in the first line. Pressing the PF11 key produces the following line:

```
===== This line is too short.
```

Using JOIN to Insert a Character String:

```
===== .sp
===== .in 5
===== .of 3
```

`JOIN /;/ /;/` (join the current line and the next two, separated by semi-colons)

```
===== .sp;.in 5;.of 3
```

Using JOIN ALIGNED to remove up to the same number of leading blanks from the line being joined to the current line:

```
=====      These lines have _
=====      leading blanks.

JOIN AL CURSOR

=====      These lines have leading blanks.
```

Using JOIN to Join Lines Separated by Blanks:

```
===== Electric eels
===== can discharge bursts
===== of 625 volts.
```

`JOIN / / / /` (join current line and next two, separated by blanks)

```
===== Electric eels can discharge bursts of 625 volts.
```

LEFT

Use the LEFT subcommand to view columns of data that are not currently visible on the screen. The LEFT subcommand allows you to see data that is *to the left of the first column* on the screen. The data moves to the right, thus allowing you to see a specified number of positions to the left of the first column.

The format of the LEFT subcommand is:

LEft	[n|1]

where:

n
specifies the number of positions to the left of the first column on the screen that you want to see. If you omit n, one position to the left of the first column becomes visible.

Usage Notes:

1. The LEFT subcommand does not cause data to be lost, nor does it move the line or column pointer.

2. To get the data back to its original position, use the RIGHT *n* subcommand. See also the RGTLEFT macro in this publication.

3. LEFT subcommands are cumulative. For example,

```
LEFT    10
LEFT    10
```

   is equivalent to

```
LEFT    20
```

   Therefore, if several LEFT subcommands have been issued, column one on the screen might not contain the first character in a line.

4. If you have issued several LEFT and/or RIGHT subcommands and have forgotten the value of n:

   a. LEFT 0 or RIGHT 0 restores the screen to its original display.

   b. SET VERIFY resets LEFT (or RIGHT) to zero.

   c. QUERY VERSHIFT displays -n (result of a LEFT) or n (result of a RIGHT).

5. The total number of columns specified cannot exceed the logical record length.

Notes for Macro Writers:

EXTRACT /VERSHIFT/ returns the value of n or minus n.

Responses:

The data on the screen moves to the right.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
576E TOTAL OFFSET EXCEEDS LRECL (nn)., RC=5
```

Return Codes

0 Normal
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-8 is a before-and-after example of the LEFT subcommand.

```
 OGDEN     NASH      A1  V 132  TRUNC=132 SIZE=28 LINE=10 COL=1 ALT=0
===== THE PANTHER
=====
===== THE PANTHER IS LIKE A LEOPARD,
===== EXCEPT IT HASN'T BEEN PEPPERED.
===== SHOULD YOU BEHOLD A PANTHER CROUCH,
===== PREPARE TO SAY OUCH.
===== BETTER YET, IF CALLED BY A PANTHER,
===== DON'T ANTHER.
=====
===== THE CANARY
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====
===== THE SONG OF CANARIES
===== NEVER VARIES.
===== AND WHEN THEY'RE MOULTING
===== THEY'RE PRETTY REVOLTING.
=====
===== THE GIRAFFE
=====
===== I BEG YOU, CHILDREN, DO NOT LAUGH
====> LEFT 10
                                                          X E D I T  1 FILE
```

```
 OGDEN     NASH      A1  V 132  TRUNC=132 SIZE=28 LINE=10 COL=1 ALT=0
=====            THE PANTHER
=====
=====            THE PANTHER IS LIKE A LEOPARD,
=====            EXCEPT IT HASN'T BEEN PEPPERED.
=====            SHOULD YOU BEHOLD A PANTHER CROUCH,
=====            PREPARE TO SAY OUCH.
=====            BETTER YET, IF CALLED BY A PANTHER,
=====            DON'T ANTHER.
=====
=====            THE CANARY
      ....+....0|...+...10....+...20....+...30....+...40....+...50....+...60...
=====
=====            THE SONG OF CANARIES
=====            NEVER VARIES.
=====            AND WHEN THEY'RE MOULTING
=====            THEY'RE PRETTY REVOLTING.
=====
=====            THE GIRAFFE
=====
=====            I BEG YOU, CHILDREN, DO NOT LAUGH
====>
                                                          X E D I T  1 FILE
```

Figure 3-8. The LEFT Subcommand - Before and After

LOAD

Use the LOAD subcommand to read a copy of the file being edited into virtual storage. *The LOAD subcommand can be issued only from the XEDIT profile.* Its purpose is to allow the profile (macro) to prompt the user for editing options or to assign default values for editing variables. The LOAD subcommand has the same format and editing options as the XEDIT command; however, the options specified in the XEDIT command override those specified in the LOAD subcommand.

The format of the LOAD subcommand is identical to that of the XEDIT command and is as follows:

```
LOAD        [fn[ft[fm]]][(options...[])]

            Options:

             [Width nn]
             [NOSCreen]
             [PROFile macroname]
             [NOPROFil]
             [NOCLear]
             [NOMsg]

            Options valid only in update mode:

             [Update|NOUpdate]
             [Seq8|NOSeq8]
             [Ctl fn1|NOCtl]
             [Merge]
             [UNtil filetype]
             [Incr nn]
             [SIDcode string]
```

For a description of the editing options, refer to the XEDIT command description. Remember that the options specified with the XEDIT command (or subcommand) override those specified with the LOAD subcommand.

Usage Notes:

1. The WIDTH option specifies the amount of virtual storage to be used for one file line.

   If the value of WIDTH specified in the LOAD subcommand is too small to contain a file line, it is overridden by:

   a. The logical record length of the file being read when editing an existing file, or

   b. The WIDTH value (if any) specified in the XEDIT command.

   Therefore, the value of WIDTH specified in the LOAD subcommand cannot cause unwanted truncation.

   WIDTH is the preferred logical record length value for newly-created files.

If WIDTH is not specified in either the LOAD subcommand or the XEDIT command, its value is the greater of:

a. The logical record length (LRECL) of the file, or

b. The default logical record length associated with the filetype.

Note that WIDTH is the only option that has a different meaning in the LOAD subcommand and XEDIT command.

2. The following XEDIT variables are assigned default values when the LOAD subcommand is executed. These variables can be changed during editing by the SET subcommand:

```
LRECL
TRUNC
ZONE
```

LRECL
is the logical record length that is used when the file is written to disk. For files with a variable (V) record format, the LRECL is assigned the value specified in WIDTH. Thus, the longest record cannot exceed the value of WIDTH.

For files with a fixed (F) record format, the LRECL assigned is one of the following:

- If the file existed and has been read from a disk, the LRECL assigned is the logical record length of the file.
- If the file is new, LRECL is either WIDTH or the default logical record length assigned to the filetype, whichever is smaller.

TRUNC
is assigned the value of LRECL, except for fixed (F) format files, which have a default value associated with the filetype.

ZONE
is initially set to 1 (zone1) and TRUNC (zone2).

3. Within the profile macro, the LOAD subcommand must be the first XEDIT subcommand. If it is not, a LOAD subcommand is automatically issued by the editor; its operands are the same as those issued in the XEDIT command. (EXEC 2 statements, REXX instructions, and CMS commands can be issued before the LOAD.)

4. The profile macro can be used to prompt the user for XEDIT command options or to assign values to editing variables before issuing the LOAD subcommand. For example, a SCRIPT user might program his profile to use a LOAD subcommand that does defaulting of filetype. For example:

```
parse arg fn ft '(' options
if ft = '' then ft = 'SCRIPT'
LOAD fn ft '(' options
```

5. The options specified in the LOAD subcommand have a *lower* priority than those in the XEDIT command. For example, UPDATE specified in the LOAD subcommand would be overridden by NOUPDATE specified in the XEDIT command.

   Thus, with the proper profile, all options in the XEDIT command (or subcommand) can be made optional.

   As a general rule, options in the LOAD subcommand indicate general user preferences that can be overridden by options specified in the XEDIT command itself.

6. If the LOAD is unsuccessful, a non-zero return code is generated. All subsequent subcommands in the profile are rejected with a unique "6" return code, and the editor automatically issues a QUIT subcommand.

Responses:

The following messages are displayed only if you are using XEDIT in update mode:

```
178I UPDATING 'fn ft fm'.
     APPLYING 'fn ft fm'
           .
           .
           .
180W  MISSING PTF FILE 'fn ft fm'.
```

Error Messages:

```
002E FILE 'fn ft fm' NOT FOUND.,RC=28
003E INVALID OPTION 'option'.,RC=24
024E FILE 'XEDTEMP CMSUT1 A1' ALREADY EXISTS.,RC=28
029E INVALID PARAMETER 'parameter' IN THE
     OPTION 'option' FIELD.,RC=24
048E INVALID MODE 'mode'.,RC=24
054E INCOMPLETE FILEID SPECIFIED.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
065E 'option' OPTION SPECIFIED TWICE.,RC=24
066E 'option' AND 'option' ARE CONFLICTING OPTIONS.',RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
070E INVALID PARAMETER 'parameter'.,RC=24
229E UNSUPPORTED OS DATA SET.,RC=80,81,82,83
508E 'LOAD' MUST BE THE FIRST SUBCOMMAND IN THE PROFILE,RC=3
555E FILE 'fn ft fm' ALREADY IN STORAGE,RC=4
590E DATA SET TOO LARGE.,RC=88
104S ERROR 'nn' READING FILE 'fn ft fm' FROM DISK.,RC=100
132S FILE 'fn ft fm' TOO LARGE.,RC=88
```

Error messages with UPDATE options:

```
007E FILE 'fn ft fm' IS NOT FIXED, 80 CHAR. RECORDS.,RC=32
179E MISSING OR DUPLICATE 'MACS' CARD IN CONTROL
     FILE 'fn ft fm'.
183E INVALID CONTROL|AUX FILE CONTROL CARD.,RC=32
597E UNABLE TO MERGE UPDATES CONTAINING './ S' CARDS.,RC=32
174W SEQUENCE ERROR INTRODUCED IN OUTPUT FILE:
     '........' TO '........'. ',RC=32
184W './ S' NOT FIRST CARD IN UPDATE FILE -- IGNORED
185W NON NUMERIC CHARACTER IN SEQUENCE FIELD'........'.,RC=32
186W SEQUENCE NUMBER NOT FOUND:,RC=32
207W INVALID UPDATE FILE CONTROL CARD.,RC=32
210W INPUT FILE SEQUENCE ERROR '........' TO '........'.,RC=32
570W UPDATE 'updname' SPECIFIED IN THE 'UNTIL' OPTION
     FIELD NOT FOUND
```

Return Codes:

0	Normal
3	LOAD has already been issued
4	File is already in storage
20	Invalid character in filename or filetype
24	Invalid parameters, or options
28	Source file not found (UPDATE MODE) or the specified profile macro does not exist, or file XEDTEMP CMSUT1 already exists
32	Error during updating process
36	Corresponding disk not accessed
88	File is too large and does not fit into storage
100	Error reading the file into storage

LOCATE

Use the LOCATE subcommand to scan the file for a specified target, which (if found) becomes the new current line. The search starts with the line following the current line. Optionally, an XEDIT subcommand may be specified; it is executed starting at the specified target.

The format of the LOCATE subcommand is:

`[Locate]`	`target[subcommand]`

where:

`Locate`
is the subcommand name but is optional. The target operand itself implies the LOCATE subcommand.

`target`
defines the line that is to become the new current line. It can be specified as an absolute line number, a relative displacement from the current line, a line name, a simple string expression, or a complex string expression. A complete description of targets follows.

`subcommand`
is any XEDIT subcommand, which is executed starting at the specified target.

Usage Notes – Targets:

The ability to locate a line via a target is one of the editor's most versatile functions. A target is used not only as the operand of the LOCATE subcommand but also as an operand in many other XEDIT subcommands.

A target is a way to define a line to be searched for within the current top and bottom of the file (or top and bottom of the range - see SET RANGE) and between the beginning and end of each line (or between the left and right zones - see SET ZONE).

A target can be as simple or as complex as the user desires. It can be expressed in the following ways:

1. An *absolute line number* is a colon (:) followed by a file line number. For example:

   ```
   :8
   ```

   makes file line number 8 the new current line.

2. A *relative displacement* from the current line is an integer and may be preceded by a plus (+) or minus (-) sign, which indicates a forward (+) or backward (-) displacement from the current line. If the sign is omitted, a plus (+) is assumed.

A relative displacement may also be specified as an asterisk (*), which means the TOP OF FILE (-*) or the END OF FILE (+* or *) line. When an asterisk is specified as the target operand of a subcommand, the subcommand executes to the end (or top) of the file. For example, DELETE * deletes lines from the current line to the end of the file. Examples of relative displacement follow:

```
+3
```

The target is three logical lines down (toward the end of the file) from the current line.

```
-5
```

The target is five logical lines up (toward the top of the file) from the current line.

```
+*
```

The target is the null END OF FILE (or END OF RANGE) line.

```
-*
```

The target is the null TOP OF FILE (or TOP OF RANGE) line.

```
:5  COPY  +3  :25
```

requests that lines 5, 6, and 7 be copied after line number 25.

In this example, three targets are specified. The first (:5) is a LOCATE, even though the subcommand name is not specified.

3. A *line name* is one to eight characters preceded by a period (.), which has been previously defined by a SET POINT subcommand or a .xxxx prefix subcommand (which limits the name to four characters). For example:

```
.PART2
```

locates the file line whose name is PART2 and makes it the current line.

4. A *string expression* defines a group of characters to be located. The characters in the string must be delimited by any character that does not appear in the string itself. However, if the XEDIT special characters (+ - .) are used to delimit a string target, the search direction (+ or -) must be stated explicitly. When a string target is entered by itself (without the optional subcommand name LOCATE), the delimiter must be a diagonal (/). In the following examples, a diagonal (/) is used.

   If SET HEX ON has been issued, a string may be specified in hexadecimal notation, and the editor searches for its EBCDIC equivalent. For example, if a string is specified as /X'C3D4E2'/, the editor searches for the string "CMS".

   The general format for a string expression is:

```
[+|-][¬]/string1[/&[¬]/string2/[|[¬]/string3]]...
  a   b     c     d            e
```

   a. The search direction is toward the end of the file (+) or toward the top of the file (-). If the sign is omitted, a plus (+) is assumed.

b. "NOT" symbol (Locate something that is not the specified string.)

c. Character (or hexadecimal) string. The trailing delimiter may be necessary in certain circumstances. For example, if string1 has trailing blanks the trailing delimiter should be used to indicate where the string ends.

d. "AND" symbol (ampersand) (Locate the line containing string1 and string2.)

e. "OR" symbol (vertical bar) (Locate any of the strings, separated by OR symbols, starting with the first string specified.)

For example:

`/horse/`
searches downward in the file, beginning after the current line, for the first line that contains "horse" and makes it the current line.

`¬/house/`
searches downward in the file for the first line that does *not* contain "house" and makes it the current line.

`/horse/ & /house/ | /hay/`
searches downward in the file for a line that contains either both "horse" *and* "house" *or* a line that contains "hay," whichever comes first.

Targets that are "anded" together can overlap. For example, "L/This/&/history/" could find the string "Thistory" as well as the string "This history".

`/horse/|¬/house/`
searches downward in the file for the first line that contains "horse" *or* does not contain "house."

`-/X'C1'/|/X'C2'/`
searches upward for the first line containing *either or both* of the strings specified here in hexadecimal.

If SET HEX ON is in effect, the editor locates a line containing "A" or "B". If SET HEX OFF is in effect, the editor locates a line containing "X'C1'" or "X'C2'".

`//`
advances the line pointer by one line.

5. A *complex string expression* has the same format as a simple string expression (see above), but any string can be expressed as a "complex string," which is defined as a string associated with one or more of the following SET subcommand options:

`SET ARBCHAR`
allows you to specify only the beginning and end of a string, using an arbitrary character to represent all characters in the middle.

SET CASE
allows you to specify whether or not the difference between uppercase and lowercase is to be significant in locating a string target.

SET SPAN
allows you to specify if a string target must be included in one file line or if it may span a specified number of lines.

SET VARBLANK
allows you to control whether or not the number of blank characters between two words is significant in a target search.

For example:

LOCATE and SET ARBCHAR

```
SET ARBCHAR ON
/air...plane/
```

would locate in the text either one of the following:

```
"the airplane was landing"
"cold air surrounded the plane"
```

LOCATE and SET CASE

```
SET CASE M IGNORE
/computer/
```

would locate in the text any of the following:

```
"computer"
"Computer"
"comPUTer"
```

LOCATE and SET SPAN

If SET SPAN OFF is in effect, a string must be contained within one file line in order to match a target.

If SET SPAN ON is in effect, a string may start on one line and continue on n lines (as specified in the SET SPAN subcommand) and still match a target.

LOCATE and SET VARBLANK

```
SET  VARBLANK  ON
/the  house/
```

will locate in the text either of the following:

```
"the house"
"the                house"
```

Note: Target as discussed here is actually a *line target* and is not to be confused with a *column-target,* which is used as the operand of only the CLOCATE and CDELETE subcommands.

Usage Notes for LOCATE Targets:

1. LOCATE targets and SET STAY: If SET STAY OFF is in effect and the target is not located, the new current line is the bottom (or top) of the file (or range).

   If SET STAY ON is in effect and the target is not located, the line pointer remains unchanged.

2. LOCATE targets and SET WRAP: If SET WRAP OFF is in effect, the search for a string expression target stops with the end of file or range (or top of file or range).

   If SET WRAP ON is in effect, the editor wraps around the file and continues the search for a string expression target up to the line where it started. If a range has been defined, the editor wraps around the bottom of the range and continues at the top of the range (or if the search is in the other direction, the editor wraps around the top and continues at the bottom).

   When a wrap occurs under these conditions, the following warning message is displayed:

   ```
   592W WRAPPED ....
   ```

3. The LOCATE subcommand updates the LASTLORC buffer. Refer to the SET LASTLORC subcommand in this publication.

Notes for Macro Writers:

In a macro, an implicit backward locate (for example, -3) is interpreted by EXEC 2 as a label. To avoid this problem, use the LOCATE subcommand explicitly (for example, LOCATE -3), or use the COMMAND subcommand (COMMAND -3).

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
592W WRAPPED ....
```

Return Codes:

0	Normal
1	TOF or EOF reached
2	No target line was found
5	Invalid or missing operand(s)
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
nn	Return code from subcommand following LOCATE

LOWERCAS

Use the LOWERCAS subcommand to change all uppercase letters to lowercase in one or more lines of the file, starting with the current line.

The format of the LOWERCAS subcommand is:

LOWercas	[target|1]

where:

`target`
defines the number of lines to be translated. Translation starts with the current line and continues up to, but does not include, the target line. If you specify an asterisk (*), the rest of the file is translated. If you omit target, only the current line is translated.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Note: The LOWERCAS subcommand does not alter the setting of the SET CASE subcommand.

Responses:

If you specify that a LOWERCAS is to occur on multiple lines and the LOWERCAS occurs, the current line pointer will be:

a. Unchanged, if SET STAY ON has been issued

b. Moved to the last line translated, if SET STAY OFF is in effect (the default).

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=4
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
1 TOF or EOF reached during execution
2 Target line not found
4 No line(s) changed
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

```
===== Tortoises of the Galapagos Islands can live to be 100 years old.
LOW  (translate the current line to lowercase)
===== tortoises of the galapagos islands can live to be 100 years old.
```

LPREFIX

Use the LPREFIX subcommand to simulate writing in the prefix area of the current line. LPREFIX can be used on typewriter terminals to utilize some of the features of prefix subcommands and macros, as well as on display terminals, irrespective of the appearance or position of actual prefix areas on the screen (see the SET PREFIX subcommand).

The format of the LPREFIX subcommand is:

LPrefix	[text]

where:

`text`
specifies up to five characters. All prefix subcommands and macros are put in a "pending list" before they are called. If no text is specified for LPREFIX, the pending list is executed immediately. If text is specified, the text is placed in the pending list for the current line and the pending list is then executed. For more information about the pending list, refer to the SET PENDING subcommand.

Usage Notes:

1. Note that the action taken after LPREFIX is identical to the action taken when you enter the same "text" subcommand directly in the prefix area of the current line and press ENTER.

2. "LPREFIX text" is equivalent to issuing "SET PENDING ON string" and pressing ENTER again.

3. LPREFIX cannot be issued from a prefix macro.

4. The prefix subcommands and macros that are useful on a typewriter terminal via LPREFIX are:

```
D,DD
",""
C,CC
M,MM
X,XX
<,<<
>,>>
.xxxx
P
F
```

Error Messages:

```
509E 'subcommand' SUBCOMMAND NOT VALID FROM A PREFIX MACRO, RC=4
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
4 Invalid when issued from a prefix macro
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Example:

Nefarious Nelly put her grocery list online. Every day she added more items. At the end of the week, she wanted to organize the list in the following order: meat, fruit, vegetables. Working at a typewriter terminal, she used the LPREFIX subcommand to move the grocery items appropriately. The following is a listing of her file's contents:

```
TOF:
Toad Toes
Newt Eyes
Salmon Scales
Root of Hemlock
Baneberries
Poison Plums
Paltry Peaches
EOF:
```

Nelly moves to the top of the file by typing "top" and then moves down to the line "BANEBERRIES" by typing "n5".

```
top
```

```
TOF:
```

```
n5
```

```
Baneberries
```

In order to move the last three lines of the file (the fruit) so that they follow Salmon Scales (the last line of the meat group), Nelly used the LPREFIX subcommand as shown in the following sequence:

```
lprefix mm

n2
```

```
Paltry Peaches
```

```
lprefix mm

top
```

```
TOF:
```

```
n3
```

```
Salmon Scales
```

```
lprefix f
```

The resulting file:

```
top
```

```
TOF:
```

```
t*
```

```
TOF:
Toad Toes
Newt Eyes
Salmon Scales
Baneberries
Poison Plums
Paltry Peaches
Root of Hemlock
EOF:
```

MACRO

Use the MACRO subcommand to cause the specified operand to be executed as a macro.

The format of the MACRO subcommand is:

MACRO	[macroline]

where:

macroline
: is an XEDIT macro name and its arguments (if any).

  The first word in the macroline is assumed to be an XEDIT macro name. It starts with the first non-blank character following the subcommand name MACRO, and it ends with the first character followed by a blank. The name can be from one to eight characters long; it is truncated to eight characters, if necessary.

Usage Notes:

1. The MACRO subcommand causes the editor to execute the specified macro without first checking to see if a subcommand of the same name or a synonym exists.

2. The MACRO subcommand must be used when the macro name contains non-alphabetic characters. It does not follow the usual parsing rule of separating alphabetic characters from immediately following non-alphabetic characters. For example, N2 normally means NEXT 2. MACRO N2 means "execute the macro named N2."

Responses:

The response, if any, from the executed macro is displayed.

Error Messages:

```
542E NO SUCH SUBCOMMAND : 'name'
```

Return Codes:

nn Return code of the macro specified as operand
0 Normal
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

1. MACRO N ABC
   invokes the macro file N XEDIT with the argument ABC.

2. MACRO N2 ABC
   invokes the macro file N2 XEDIT with the argument ABC.

MERGE

Use the MERGE subcommand to combine two sets of lines. The first set of lines is deleted and the second set is modified in place.

The format of the MERGE subcommand is:

MErge	target1 target2 [col]

where:

`target1`
defines the *number* of lines to be merged, starting with the current line up to, but not including, target1. Target1 defines the first group of lines that you wish to merge with a second group of lines.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication, *VM/SP System Product Editor User's Guide.*

`target2`
defines the beginning of the second group of lines that is to be merged with the first.

`col`
specifies the column number to which column 1 of the first group of lines being merged is to be shifted. The first group is shifted to the right of the second group and then overlays the second group. This allows the merge of two columns of data, side by side. The default "col" is 1.

Usage Notes:

1. MERGE shifts the first group of lines and then overlays the second group of lines. It is similar in function to the OVERLAY subcommand, except that MERGE does not give special treatment to underscore characters.

2. Following the MERGE with the second set of lines, the first set of lines is deleted. The lines can be recovered by using the RECOVER subcommand.

3. The first group of lines cannot overlap the second group of lines.

4. If SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column.

5. When combining two lines, the merge handles blanks as follows:

```
First line     Second line     Result line
  blank          blank           blank
    x            blank             x
  blank            y               y
    x              y               x
```

where 'First line' designates any of the lines in the group starting at the current line and 'Second line' designates any of the lines in the group starting at the second target parameter.

The blank columns of the line to be modified are replaced with the corresponding columns from the line in the first merge group; however, blanks in the first merge group do not replace character data in the line to be modified.

Responses:

The last line merged becomes the new current line.

Error Messages:

```
498E NOT EXECUTED:  THE TWO AREAS TO MERGE OVERLAP EACH OTHER,RC=
520E INVALID OPERAND : operand,RC=5
527E INVALID COLUMN NUMBER,RC=1
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND,RC=2
593E nn LINES MERGED, nn LINE(S) {TRUNCATED|SPILLED},RC=3
698E TARGET STRING TOO LONG, UNABLE TO PARSE THE ENTIRE
     TARGET STRING,RC=5
```

Return Codes:

0	Normal
1	Overlapping groups of lines
2	Target line not found
3	Truncated or spilled
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-9 is a before-and-after example of the MERGE subcommand.

```
 DESSERT  COOKBOOK A1  F 80  TRUNC=80 SIZE=15 LINE=9 COL=1 ALT=0

00000 * * * TOP OF FILE * * *
00001 CREAM PUFFS
00002
00003   2    OUNCES BUTTER
00004   1/2  TEASPOON SUGAR
00005   1/2  CUP FLOUR
00006   1    PINCH OF SALT
00007   2    EGGS
00008   2    CUPS HEAVY CREAM, WHIPPED
00009 CHOCOLATE SAUCE
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
00010
00011  12   OUNCES SEMI-SWEET CHOCOLATE
00012   2   OUNCES UNSWEETENED CHOCOLATE
00013   1   CUP HEAVY CREAM
00014   2   OUNCES COGNAC
00015
00016 * * * END OF FILE * * *

====> merge :15 -/PUFFS/ 35
                                                          X E D I T  1 FILE
```

```
 DESSERT  COOKBOOK A1  F 80  TRUNC=80 SIZE=9 LINE=6 COL=1 ALT=1
12 LINES MERGED



00000 * * * TOP OF FILE * * *
00001 CREAM PUFFS                        CHOCOLATE SAUCE
00002
00003   2    OUNCES BUTTER                12   OUNCES SEMI-SWEET CHOCOLATE
00004   1/2  TEASPOON SUGAR                2   OUNCES UNSWEETENED CHOCOLATE
00005   1/2  CUP FLOUR                     1   CUP HEAVY CREAM
00006   1    PINCH OF SALT                 2   OUNCES COGNAC
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
00007   2    EGGS
00008   2    CUPS HEAVY CREAM, WHIPPED
00009
00010 * * * END OF FILE * * *




====>
                                                          X E D I T  1 FILE
```

Figure 3-9. The MERGE Subcommand - Before and After

MODIFY(Macro)

Use the MODIFY macro to display a subcommand and its current operand values in the command line, so that a new operand value can be typed over the current one and the subcommand immediately re-entered.

The format of the MODIFY macro is:

MODify	keyword

where:

keyword
is one of the following keyword operands valid with the SET, QUERY, EXTRACT, or TRANSFER subcommands:

ALT	IMPcmscp	SELect
APL	LASTLorc	SERial
ARBchar	LINENd	SHADow
AUtosave	LRecl	SIDcode
CASE	MACRO	SPAN
CMDline	MASK	SPILL
*COLOR field	MSGLine	STAY
COLPtr	MSGMode	STReam
COLumn	NONDisp	SYNonym
CTLchar [char]	NULls	TABLine
CURLine	NUMber	TABS
DISPlay	PAn	TERMinal
ENTer	PACK	TEXT
ESCape	PFn	TOFEOF
FILler	PREfix [Synonym name]	TRunc
FMode	RANge	VARblank
FName	RECFm	Verify
FType	REMOte	VERShift
FULLread	SCALe	WRap
HEX	SCOPE	Zone
IMage	SCReen	

* Refer to the SET COLOR subcommand in this publication for a list of the fields.

Usage Notes:

1. All of the above keywords cause the corresponding SET subcommand and its current operand value to be displayed, except for the following:

   MODIFY COLUMN
   displays CLOCATE :nn, where :nn is the current column.

   MODIFY MASK
   displays the current mask, so that you can type over it to modify it.

   MODIFY SYNONYM
   displays SET SYNONYM ON or SET SYNONYM OFF.

2. MODIFY CTLCHAR can be specified only when no control characters are defined. Otherwise, specify MODIFY CTLCHAR char.

Responses:

If the keyword specified is unknown or is an XEDIT variable that cannot be modified, an error message is displayed.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
3 Subcommand valid only in display mode
5 Invalid or missing operand(s)
6 Subcommand rejected in the PROFILE due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

1. `MOD ZONE`

   displays

   ```
   SET ZONE 5 25
   ```

   You can type over the "25" and change it to "50." Then press the ENTER key. The new zone settings will be 5 and 50.

2. `MOD NULLS`

   displays

   ```
   SET NULLS OFF
   ```

   Type "ON" - to set NULLS ON.

MOVE

Use the MOVE subcommand to move one or more lines, beginning with the current line, to a specified position in the file. The original lines are deleted.

The format of the MOVE subcommand is:

MOve	target1 target2

where:

target1
: defines the number of lines to be moved. The lines are removed from the file starting with the current line up to, but not including, target1.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

target2
: defines the destination line. The data is moved *after* target2.

Responses:

The last line moved becomes the new current line.

The editor displays the following message:

```
506I  nn LINES MOVED
```

Error Messages:

```
505E NOT EXECUTED : THE TARGET LINE (nn) IS WITHIN THE
     LINES TO MOVE,RC=1
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
1 Target line within the lines to move
2 Target line not found
5 Invalid or missing operands
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-10 is a before-and-after example of the MOVE subcommand.

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=28 LINE=22 COL=1 ALT=0

===== THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
===== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
===== THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
===== HAS ON THE SHARKS.
===== A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
===== FINGER DRAWN ACROSS AN INFLATED BALLOON.
===== THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS.  IT FEEDS ON THE GLUE OF THE
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
===== STINGAREES, FISH FOUND IN AUSTRALIA, CAN WEIGH UP TO 800 POUNDS
===== AND HAVE THE MOST POTENT VENOM OF ALL FISH.
===== OSTRICHES CAN KICK LIKE A MULE, IMITATE A LION'S ROAR, AND HISS LIKE
===== A SNAKE.
===== A QUEEN ANT CAN LIVE UP TO 15 YEARS.
===== * * * END OF FILE * * *


====> MOVE 2 -/SQUID/
                                                        X E D I T  1 FILE
```

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=28 LINE=18 COL=1 ALT=1
2 LINES MOVED
===== A LIZARD OF CENTRAL AMERICA CALLED THE BASILISK CAN RUN
===== ACROSS WATER.
===== OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
===== LEARNING.
===== THE ARMADILLO IS THE ONLY ARMORED MAMMAL.
===== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== THE BOOKLOUSE CAN BE FOUND IN OLD BOOKS.  IT FEEDS ON THE GLUE OF THE
===== BINDINGS AND ON MOLDS THAT GROW ON OLD PAPER.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
===== THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
===== HAS ON THE SHARKS.
===== A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
===== FINGER DRAWN ACROSS AN INFLATED BALLOON.
===== STINGAREES, FISH FOUND IN AUSTRALIA, CAN WEIGH UP TO 800 POUNDS
===== AND HAVE THE MOST POTENT VENOM OF ALL FISH.
===== OSTRICHES CAN KICK LIKE A MULE, IMITATE A LION'S ROAR, AND HISS LIKE
===== A SNAKE.
====>
                                                        X E D I T  1 FILE
```

Figure 3-10. The MOVE Subcommand - Before and After

MSG

Use the MSG subcommand to display a message in the message area of the screen.

The format of the MSG subcommand is:

MSG	[text]

where:

`text`
is the text of the message to be displayed. If omitted, a blank line will be displayed.

Usage Notes:

1. The MSG subcommand does not sound the alarm. (Use the EMSG subcommand to sound the alarm.)

2. MSG can also be used to type a message on a typewriter terminal.

Notes for Macro Writers:

1. Use the MSG subcommand within a macro to display a message at the terminal.

2. When multiple messages are issued and they do not fit on the message line(s) as defined by SET MSGLINE, they are passed to CMS, the screen is cleared, and the messages are displayed. Press the CLEAR key to re-display the file. In this case, the SET CMSTYPE command setting determines whether or not the messages are displayed.

Responses:

The message is displayed in the message area of the screen.

Return Codes:

0 Normal
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

NEXT

Use the NEXT subcommand to advance the line pointer a specified number of lines toward the end of the file. The line pointed to becomes the new current line. (The NEXT subcommand is equivalent to the DOWN subcommand.)

The format of the NEXT subcommand is:

`Next`	`[n|*|1]`

where:

n
: is the number of lines to move the line pointer. If you specify an asterisk (*), the line pointer moves to the "END OF FILE" line. If you omit n, the pointer moves down only one line.

Usage Note:

The `Next` *n* subcommand is equivalent to a plus (+) target definition.

For example:

```
Next 3
```

is equivalent to

```
+3
```

Responses:

The line pointed to becomes the new current line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
```

Return Codes:

0 Normal
1 End of file reached and displayed
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-11 is the before-and-after example of the NEXT subcommand.

```
 PURIST   SCRIPT   A1  V 132  TRUNC=132 SIZE=12 LINE=5 COL=1 ALT=0




===== * * * TOP OF FILE * * *
===== "THE PURIST"
=====
===== I GIVE YOU NOW PROFESSOR TWIST.
===== A CONSCIENTIOUS SCIENTIST.
===== TRUSTEES EXCLAIMED, "HE NEVER BUNGLES!"
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== AND SENT HIM OFF TO DISTANT JUNGLES.
===== CAMPED ON A TROPIC RIVERSIDE,
===== ONE DAY HE MISSED HIS LOVING BRIDE.
===== SHE HAD, THE GUIDE INFORMED HIM LATER,
===== BEEN EATEN BY AN ALLIGATOR.
===== PROFESSOR TWIST COULD NOT BUT SMILE.
===== "YOU MEAN," HE SAID, "A CROCODILE."
===== * * * END OF FILE * * *

====> NEXT 5
                                                          X E D I T 1 FILE
```

```
 PURIST   SCRIPT   A1  V 132  TRUNC=132 SIZE=12 LINE=10 COL=1 ALT=0

===== "THE PURIST"
=====
===== I GIVE YOU NOW PROFESSOR TWIST.
===== A CONSCIENTIOUS SCIENTIST.
===== TRUSTEES EXCLAIMED, "HE NEVER BUNGLES!"
===== AND SENT HIM OFF TO DISTANT JUNGLES.
===== CAMPED ON A TROPIC RIVERSIDE,
===== ONE DAY HE MISSED HIS LOVING BRIDE.
===== SHE HAD, THE GUIDE INFORMED HIM LATER,
===== BEEN EATEN BY AN ALLIGATOR.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== PROFESSOR TWIST COULD NOT BUT SMILE.
===== "YOU MEAN," HE SAID, "A CROCODILE."
===== * * * END OF FILE * * *




====>
                                                          X E D I T 1 FILE
```

Figure 3-11. The NEXT Subcommand - Before and After

NFIND

Use the NFIND subcommand to search forward in the file for the first line that does *not* start with the text specified in the operand. Only the non-blank characters in the operand are checked against the file. The search starts with the line following the current line.

The format of the NFIND subcommand is:

NFind	text

where:

`text`
is any text, beginning in column one of one or more file lines, that you do *not* want to find.

Usage Notes:

1. Only one blank can be used as a delimiter following the NFIND subcommand.
2. If a SET IMAGE ON subcommand is in effect, tabs in the operand are changed to blanks (or filler characters) before the search is made. In addition, the search begins in the first tab column.
3. Use an underscore character (_) in the operand to designate that a blank character should appear in the line.
4. See also FIND, FINDUP, NFINDUP.
5. If the subcommand SET WRAP OFF has been issued, the search will continue until the end of file.

   If the subcommand SET WRAP ON has been issued, the search will continue through the entire file and stop when the line where it started is reached again. When a WRAP occurs under these conditions, the following warning message is displayed:

   ```
   592W WRAPPED ....
   ```

6. The NFIND subcommand updates the LASTLORC buffer. Refer to the SET LASTLORC subcommand in this publication.

Response:

The first line that does *not* match the operand becomes the new current line.

Error Messages:

```
545E MISSING OPERAND(S),RC=5
586E NOT FOUND,RC=2
592W WRAPPED ....
```

Return Codes:

0 Normal
2 No target line was found
5 Missing operands
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

NFINDUP

Use the NFINDUP subcommand to search *backward* in the file for the first line that does *not* start with the text specified in the operand. Only the non-blank characters in the operand are checked against the file. The search starts with the line preceding the current line.

The format of the NFINDUP subcommand is:

NFINDUp NFUp	text

where:

`text`
is any text beginning in column one of one or more file lines, that you do *not* want to find.

Usage Notes:

1. Only one blank can be used as a delimiter following the NFINDUP subcommand.

2. If a SET IMAGE ON subcommand is in effect, tabs in the operand are changed to blanks (or filler characters) before the search is made. In addition, the search begins in the first tab column.

3. Use an underscore character (_) in the operand to designate that a blank character should appear in the line.

4. See also FIND, FINDUP, NFIND.

5. If the subcommand SET WRAP OFF has been issued, the search will continue until the top of file.

   If the subcommand SET WRAP ON has been issued, the search will continue through the entire file and stop when the line where it started is reached again. When a WRAP occurs under these conditions, the following warning message is displayed:

   ```
   592W WRAPPED ....
   ```

6. The NFINDUP subcommand updates the LASTLORC buffer. Refer to the SET LASTLORC subcommand in this publication.

Response:

The first line that does *not* match the operand becomes the new current line.

Error Messages:

```
545E MISSING OPERAND(S),RC=5
586E NOT FOUND,RC=2
592W WRAPPED ....
```

Return Codes:

0	Normal
2	No target line was found
5	Missing operands
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

OVERLAY

Use the OVERLAY subcommand to replace selectively one or more characters in the current line with the corresponding nonblank characters in the line being keyed in. If SET IMAGE ON is in effect, replacement starts at the first tab column of the current line.

The format of the OVERLAY subcommand is:

`Overlay`	`text`

where:

`text`
specifies an input line that replaces corresponding character positions in the current line.

Usage Notes:

1. Blank characters in the input line indicate that the corresponding characters in the current line are *not* to be overlaid.

2. Use an underscore character (_) in the input line to place a blank in the corresponding character position in the current line.

3. Use the CREPLACE subcommand instead of the OVERLAY subcommand when you want a one-for-one replacement of blanks and underscore characters.

4. At least one blank must follow the OVERLAY subcommand; the operand starts after the first blank that follows the subcommand name (or its abbreviation).

5. If SET IMAGE ON is in effect, tabs in the text operand are expanded to blank (or filler) characters. These blanks will also leave the corresponding characters in the current line unchanged.

   For example, the following subcommand adds a comment to an assembler language statement (filetype ASSEMBLE) whose settings are defined by SET TABS 1 10 16 30 35 . . . :

   ```
   OVERLAYTTTTcomment
   ```

   (where T represents a tab character)

6. If SET SPILL OFF is in effect (the default), characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines starting with the first character or word that would have gone beyond the truncation column.

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
545E MISSING OPERAND(S),RC=5
585E NO LINE(S) CHANGED,RC=4
```

Return Codes:

0 Normal
3 Truncated or spilled
4 No line(s) changed
5 Missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

PARSE (Macro)

Use the PARSE macro to help you write new XEDIT macros. The PARSE macro scans a line (of the new macro) that has been transmitted from the console stack to see if its operands match a format specified in the PARSE macro.

The format of the PARSE macro is:

```
PARSE     startcol  Alphaword
                    Number
                    String      ...
                    Dblstring
                    Target
                    Word
                    Line
```

where:

`startcol`
specifies the starting column in the input line where the parsing is to begin.

The following keywords define the sequence and types of the operands:

`Alphaword`
specifies that the operand must be an alphabetic character string.

`Number`
specifies that the operand must be a numeric character string.

`String`
specifies that the operand must be a delimited string; the delimiter is the first character of the string.

`Dblstring`
specifies that the operand must be a double string, that is, two adjacent strings separated by a common delimiter. For example, /string1/string2/ is a double string.

`Target`
specifies that the operand must be an XEDIT target.

`Word`
specifies that the operand must be a character string, either alphabetic, numeric, or mixed, delimited by blanks.

`Line`
specifies the unprocessed part of the line being parsed.

Notes for Macro Writers:

1. Before issuing the PARSE macro, you must place the line to be parsed in the console stack. For example,

   ```
   push string
   ```

2. As a result of the PARSE macro, several lines are placed in the console stack:

   a. The first line contains an integer that indicates the number of stacked lines that follow. One line is stacked for each recognized operand in the parsed line.

   b. Each of the remaining lines contains the starting column and the length of the operand, except for STRING and DBLSTRING operands.

      A line stacked for a STRING operand contains:

      1) the starting column of the delimited string

      2) the length of the delimited string (including delimiters)

      3) the starting column of the string itself (without the delimiter)

      4) the length of the string (without delimiters).

      A line stacked for a DBLSTRING operand contains:

      1) the starting column of the delimited strings

      2) the length of the delimited strings (including delimiters)

      3) the starting column of the first string itself (without the delimiter)

      4) the length of the first string (without delimiters)

      5) the starting column of the second string (without the delimiter)

      6) the length of the second string (without the delimiters).

      Note: For both STRING AND DBLSTRING operands, null strings (explicit or implicit as in // or /) are described as starting in column -1 with a length of 0.

Return Codes:

-1 The operands specified in the PARSE macro are incorrect, that is, the first operand is not a number, or one of the subsequent operands is not recognized. Nothing is stacked.

0 Parsing was successful.

1 The scanned line did not match the format specified in the PARSE macro. Parsing was incomplete. Results of the parsing that was completed are available from the console stack.

6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

POWERINP

Use the POWERINP (power input) subcommand to enter an input mode in which you can type data as if the screen were one long line. You do not have to be concerned with line length; you can start typing a word on one line of the screen and finish it on the next. When the ENTER key is pressed, the editor divides the data into file lines and puts together any split words.

The format of the POWERINP subcommand is:

POWerinp	

Usage Notes:

1. When POWERINP is executed, the current file line is displayed in the second line of the screen in protected format, that is, it cannot be modified. The rest of the screen is blank and can be used for input.

2. You can type words continuously and fill up the screen as long as you don't press the ENTER key. When the ENTER key is pressed, the last input line becomes the current line and is displayed at the top of the screen, and you can continue typing data.

3. To exit from power input mode, press the ENTER key without modifying the last displayed screen. The editor divides the data you typed into appropriate file lines, restricting them to the proper length by cutting them at word boundaries, if necessary, to make them fit.

4. PF keys cannot be used in power input mode. (Pressing a PF key is equivalent to pressing the ENTER key.) Any prefix subcommands or macros are not executed until you exit from power input mode.

5. If you want to cause a break in the data that you type in power input mode, that is, you want data to start on a new line (for example, a new paragraph or SCRIPT/VS control words, which must start in column one), you can type a line end character (see SET LINEND) before the data that you want to start on a new line. The default line end character is a pound sign (#).

   For example, if the following data is typed in power typing mode:

   ```
   .sp#A pound sign causes the data to start on a new line.#.sp
   ```

   The data will be entered in the file as:

   ```
   ===== .sp
   ===== A pound sign causes the data to start on a new line.
   ===== .sp
   ```

   Any leading blanks after the line end character are eliminated when the data is entered in the file. The first non-blank character after the line end character is placed in column one.

6. A word cannot be longer than the truncation setting.

7. You can use the insert key to insert characters in a line while in power input mode. When characters are inserted, the entire stream of data shifts to the right.

8. Any prefix subcommands or macros are not executed until you exit from power input mode.

Responses:

1. In power input mode, the screen changes in the following ways:

   - The first line of the screen contains the fileid and the heading,

     ```
     fname ftype fmode * * * P O W E R  T Y P I N G * * *  ALT=n
     ```

   - The second line of the screen contains the current file line in protected format.

   - The rest of the screen is blank.

2. In power input mode, if you try to input APL or TEXT characters and you did not set the APL or TEXT option on, you will receive the following warning:

   ```
   WARNING:  APL/TEXT OPTION NOT IN EFFECT
   ```

   Also, the APL characters may not be inserted into the file correctly.

Error Messages:

```
503E TRUNCATED,RC=4
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
614E SCREEN MODIFICATIONS LOST. 'SET FULLREAD ON' TO USE
     PAKEYS SAFELY,RC=8
117S ERROR WRITING TO DISPLAY TERMINAL,RC=8
557S NO MORE STORAGE TO INSERT LINES,RC=4
```

Return Codes:

0	Normal
3	Subcommand valid only for display terminal
4	Truncated or no more storage
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
8	I/O error or modifications lost due to pressing PA key when message pending

PRESERVE

Use the PRESERVE subcommand to save the settings of various XEDIT variables until a subsequent RESTORE subcommand is issued.

The format of the PRESERVE subcommand is:

PREServe	

Usage Notes:

1. The following settings are saved:

   a. Current LEFT or RIGHT

   b. The following SET subcommand options:

ARBCHAR	IMPCMSCP	SHADOW
AUTOSAVE	LASTLORC	SPAN
CASE	LINEND	SPILL
CMDLINE	LRECL	STAY
COLOR	MACRO	STREAM
COLPTR	MASK	SYNONYM
CURLINE	MSGMODE	TABLINE
DISPLAY	NULLS	TABS
ESCAPE	NUMBER	TOFEOF
FILLER	PACK	TRUNC
FMODE	PREFIX	VARBLANK
FNAME	RECFM	VERIFY
FTYPE	SCALE	WRAP
HEX	SCOPE	ZONE
IMAGE	SERIAL	=

2. The following values are *not* saved:

   Current line pointer
   Column pointer
   All SET subcommand options not listed above in Usage Note 1b.

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

PURGE

Use the PURGE subcommand to remove the copy of a macro that is in virtual storage.

The format of the PURGE subcommand is:

PURge	macroname

where:

macroname
: is the name of a macro, a copy of which is in virtual storage.

Usage Notes:

1. When a macro is used for the first time in an editing session, the editor reads it into virtual storage and keeps that copy in storage as long as virtual storage is available. (When storage becomes unavailable, the copy of the least-recently used macro is erased.) The PURGE subcommand is useful if you modify a macro and want the editor to read the new macro from disk.

   However, any time a macro that is being edited is filed or saved, an automatic PURGE is executed for that macro name. Therefore, PURGE is useful only after the CMS commands RENAME or DISK LOAD or with disk operations performed *outside* XEDIT.

2. When a macro invokes the PURGE subcommand and the PURGE is successfully completed, the return code is set to zero. If the macro to be purged is not in storage, the return code is set to 3. If the macro to be purged is in use, the return code is set to 4 and the macro is not purged.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
578W 'macro' MACRO IS NOT CURRENTLY IN STORAGE,RC=3
```

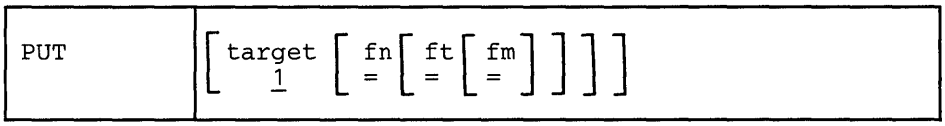
Return Codes:

0 Normal
3 Macro is not currently in storage
4 Macro is in use; do not purge
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

PUT

Use the PUT subcommand to insert one or more lines from the file being edited, starting with the current line, into one of the following: the end of a specified existing file; a new file that you are creating; or a temporary file created by the editor. The original lines remain in the file you are editing.

The format of the PUT subcommand is:



where:

`target`
: defines the number of lines to be inserted into another file. Lines are inserted beginning with the current line, up to but not including the target line. If you omit target, only the current line is inserted.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

`fn`
: is the filename of the file into which lines are to be inserted. If the file does not exist, the editor creates it and displays the message, CREATING NEW FILE, in the message area.

`ft`
: is the filetype of the file into which lines are to be inserted. If you omit ft, the editor uses the filetype of the file you are currently editing.

`fm`
: is the filemode of the file into which lines are to be inserted. If you omit fm, the editor uses the filemode of the file you are currently editing.

Usage Notes:

1. The operands fn, ft, or fm may be specified by an equal sign (=), in which case the corresponding value of the file currently being edited is used.

2. If the specified file (fn ft fm) exists, the lines are added to the end of the file.

3. If the specified file (fn ft fm) does not already exist, the editor creates it and inserts the lines.

4. If you do not specify a fileid (fn ft fm), the lines specified by target are inserted into a temporary file that the editor creates. These lines can be retrieved each time a subsequent GET subcommand is issued without an operand. This temporary file is replaced each time a PUT (or PUTD) subcommand is issued. It is erased when XEDIT returns control to CMS. Thus, issuing a PUT subcommand without specifying a fileid is like storing lines in a temporary holding area. You can retrieve the temporary file without knowing its fileid.

5. If you issue a PUT subcommand without *any* operands, only the current line is placed in a temporary file.

6. When you are editing multiple files, only one temporary file is available. It may be used to insert data from one file into another.

Responses:

1. If you are creating a file with the PUT subcommand, the following message is displayed.

```
571I CREATING NEW FILE:
```

2. The line following the last line PUT (the target line) becomes the new current line.

Error Messages:

```
037E DISK 'mode' IS READ ONLY.,RC=12
048E INVALID MODE 'mode'.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
069E DISK 'mode' NOT ACCESSED.,RC=36
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
579E RECORDS TRUNCATED TO nn WHEN ADDED TO 'fn ft fm',RC=3
698E TARGET STRING TOO LONG, UNABLE
     TO PARSE THE ENTIRE TARGET STRING, RC=5
105S ERROR 'nn' WRITING FILE 'fn ft fm' ON DISK.,RC=100
```

Return Codes:

0	Normal
1	TOF or EOF reached
2	Target not found
3	Records truncated
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
12	Disk is read-only
13	Disk is full
20	Invalid character in filename or filetype
24	Invalid filemode
36	Disk not accessed
100	Error writing file to disk

Examples:

The following are valid ways to issue the PUT subcommand:

`PUT`
(store current line in temporary file, to be inserted by subsequent GET in another file)

`PUT`*/string/*
(store from current line up to the line containing string, for use by a subsequent GET in another file)

`PUT` */string/* `MY NEWFILE`
(create a new file with lines from current line up to the string)

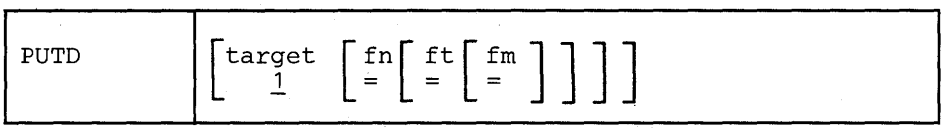
Refer to the "Examples" section of the GET subcommand for an example of how to use PUT and GET to transfer lines between files while editing multiple files.

PUTD

Use the PUTD subcommand to insert one or more lines from the file being edited, starting with the current line, into one of the following: the end of a specified existing file; a new file that you are creating; or a temporary file created by the editor.

Unlike the PUT subcommand, the PUTD subcommand deletes the original lines from the file you are editing.

The format of the PUTD subcommand is:



where:

`target`
: defines the number of lines to be inserted into another file. Lines are inserted beginning with the current line, up to but not including the target line. If you omit target, only the current line is inserted.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

`fn`
: is the filename of the file into which lines are to be inserted. If the file does not exist, the editor creates it and displays the message, CREATING NEW FILE, in the message line.

`ft`
: is the filetype of the file into which lines are to be inserted. If you omit ft, the editor uses the filetype of the file you are currently editing.

`fm`
: is the filemode of the file into which lines are to be inserted. If you omit fm, the editor uses the filemode of the file you are currently editing.

Usage Note:

The PUTD subcommand, unlike the PUT subcommand, deletes the original lines from the file.

For additional information, please refer to the "Usage Notes" section of the PUT subcommand.

Responses:

If you are creating a file with the PUTD subcommand, the following message is displayed:

```
571I CREATING NEW FILE:
```

After lines are deleted from the original file, the line immediately following the last line deleted becomes the new current line. If lines are deleted in a backward direction, toward the top of the file, the line preceding the last deleted line becomes the new current line.

Error Messages:

```
037E DISK 'mode' IS READ ONLY.,RC=12
048E INVALID MODE 'mode'.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
069E DISK 'mode' NOT ACCESSED.,RC=36
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
579E RECORDS TRUNCATED TO nn WHEN ADDED TO 'fn ft fm',RC=3
698E TARGET STRING TOO LONG, UNABLE
     TO PARSE THE ENTIRE TARGET STRING,RC=5
105S ERROR 'nn' WRITING FILE 'fn ft fm' ON DISK.,RC=100
```

Return Codes:

0	Normal
1	TOF or EOF reached
2	Target not found
3	Records truncated
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
12	Disk is read-only
13	Disk is full
20	Invalid character in filename or filetype
24	Invalid filemode
36	Disk not accessed
100	Error writing file to disk

Examples:

See the "Examples" section of the PUT subcommand.

QUERY

Use the QUERY subcommand to display in the message area, the current setting of various editing options. Only one option may be specified in each QUERY subcommand.

The format of the QUERY subcommand is:

Query	ACTion	PA [n|*]
	ALT	PACK
	APL	PENDing [BLOCK][OLDNAME] name|*
	ARBchar	PF [n|*]
	AUtosave	Point [*]
	BASEft	PREfix [Synonym *|name]
	CASE	RANge
	CMDline	RECFm
	COLOR *|field	REMOte
	COLPtr	RESERved
	COLumn	RING
	CTLCHAR [char]	SCALe
	CURLine	SCOPE
	CURSor	SCReen
	DISPlay	SELect
	EFMode	Seq8
	EFName	SERial
	EFType	SHADow
	ENTer	SIDcode
	EOF	SIZe
	EOL	SPAN
	ESCape	SPILL
	FILler	STAY
	FMode	STReam
	FName	SYNonym [*|name]
	FType	TABLine
	FULLread	TABS
	HEX	TARGet
	IMage	TERMinal
	IMPcmscp	TEXT
	LASTLorc	TOF
	LASTmsg	TOFEOF
	LENgth	TOL
	LIne	TRANSLat
	LINENd	TRunc
	LRecl	UNIQueid
	LScreen	UNTil
	MACRO	UPDate
	MASK	VARblank
	MSGLine	Verify
	MSGMode	VERShift
	NBFile	Width
	NONDisp	WRap
	NULls	Zone
	NUMber	=

where:

ACTion
: displays "ON" or "OFF" to indicate whether any action other than displaying or scrolling has been taken on this file. This includes any fileid change, or file characteristic change (LRECL, RECFM, PACK, SERIAL, SIDCODE, or ALT) as well as any other changes made to the file.

ALT
: displays the number of alterations that have been made to the file since the last AUTOSAVE and SAVE, or as specified in the SET ALT subcommand.

APL
: displays "ON" or "OFF" as defined by the SET APL subcommand.

ARBchar
: displays "ON" or "OFF" and the arbitrary character specified in the SET ARBCHAR subcommand.

AUtosave
: displays the current setting defined in the SET AUTOSAVE subcommand: the AUTOSAVE count, fileid, and number of alterations.

BASEft
: displays the base filetype specified in the LOAD subcommand or the XEDIT command (where the LOAD is implicit).

CASE
: displays the case setting ("U" or "M") and "R" or "I" as defined in the SET CASE subcommand.

CMDline
: displays "ON," "OFF," "TOP," or "BOTTOM" as defined by the SET CMDLINE subcommand.

COLOR *|field
: displays the current setting defined in the SET COLOR subcommand: field, color, extended highlighting, and "HIGH" or "NOHIGH" for the field requested or for all fields (* is specified). The fields which may be specified are: Arrow, Cmdline, CUrline, Filearea, Idline, Msgline, Pending, PRefix, Scale, SHadow, STatarea, Tabline, and TOfeof.

COLPtr
: displays "ON" or "OFF" as defined by the SET COLPTR subcommand.

COLumn
: displays the column number of the column pointer.

CTLchar [char]
: If no character is specified (Q CTLCHAR), displays the escape character and all control characters defined by the SET CTLCHAR subcommand, in the form "CTLCHAR ON ESCAPE char CTL c1 c2 c3 c4...". If no control characters have been defined, displays "CTLCHAR OFF."

  If a character is specified (Q CTLCHAR char), the attributes of that character are displayed, in the form "CTLCHAR char attribute1 (PROTECT | NOPROTECT), attribute2 (color), attribute3 (extended highlighting), attribute4 (HIGH | NOHIGH | INVISIBLE)." If no attributes were defined for the character, displays "CTLCHAR char."

CURLine
: displays the line number of the current line as specified by the SET CURLINE subcommand.

CURSor
: displays the position of the cursor on the screen (line number and column number), and the position of the cursor in the file (line number and column number). If the cursor is not in the file area, two negative numbers (-1) are displayed for the position of the cursor in the file.

DISPlay
: displays the range of selection levels which are included in the display, as specified by the SET DISPLAY subcommand.

EFMode
: displays the two-character filemode of the file at the time the file was first loaded.

EFName
: displays the eight-character filename of the file at the time the file was first loaded.

EFType
: displays the eight-character filetype of the file at the time the file was first loaded.

ENTer
: displays "BEFORE," "AFTER," "ONLY," or "IGNORE" and the ENTER key definition as set by the SET ENTER subcommand.

EOF
: displays "ON" or "OFF" as determined by the editor. EOF is "ON" when the line pointer reaches end of file (or end of range).

EOL
: displays "ON" or "OFF" as determined by the editor. EOL is "ON" when the column pointer reaches zone2+1.

ESCape
: displays "ON" or "OFF" and the escape character defined by the SET ESCAPE subcommand.

FILler
: displays the filler character defined by the SET FILLER subcommand.

FMode
: displays the two-character filemode.

FName
: displays the eight-character filename.

FType
: displays the eight-character filetype.

FULLread
: displays "ON" or "OFF" as defined by the SET FULLREAD subcommand.

HEX
: displays "ON" or "OFF" as specified in the SET HEX subcommand.

IMage
: displays "ON," "OFF," or "CANON" as specified in the SET IMAGE subcommand.

IMPcmscp
: displays "ON" or "OFF" as specified in the SET IMPCMSCP subcommand.

LASTLorc
: displays the current contents of the last locate or change buffer, as specified either by SET LASTLORC or by the editor.

LASTmsg
: displays the last message issued by the editor. This message may or may not have been displayed, depending on the SET MSGMODE subcommand operands.

LENgth
: displays the length of the current line from column one through the truncation column (excluding trailing blanks). The length is zero for top of file and end of file lines.

LIne
: displays the current line number, relative to the beginning of the file.

LINENd
: displays "ON" or "OFF" and the line end character as defined by the SET LINEND subcommand.

LRecl
: displays the logical record length of the file.

LScreen
: displays six integers:

  - The number of lines and the number of columns in the logical screen
  - The line number and the column number defining the top left corner of the logical screen on the physical screen
  - The number of lines and number of columns of the physical screen.

MACRO
: displays "ON" or "OFF" as specified by the SET MACRO subcommand.

MASK
: displays the current mask line as defined by the SET MASK subcommand.

MSGLine
: displays "ON" or "OFF," the location of the message line, the number of lines the message line can expand to, and OVERLAY, if that has been specified, as defined by the SET MSGLINE subcommand.

MSGMode
: displays "ON" and "LONG" or "SHORT" as defined by the SET MSGMODE subcommand, or, if SET MSGMODE OFF has been issued, nothing is displayed.

NBFile
displays the number of files you are currently editing.

NONDisp
displays the character defined by the SET NONDISP subcommand.

NULls
displays "ON" or "OFF" as specified by the SET NULLS subcommand.

NUMber
displays "ON" or "OFF" as specified by the SET NUMBER subcommand.

PA [n|*]
displays "BEFORE," "AFTER," "ONLY," or "IGNORE" and the PA key definitions for all PA keys if no argument or * is specified, or for a specific PA key number, if n is specified, as set by the SET PAn subcommand.

PACK
displays "ON" or "OFF" as specified by the SET PACK subcommand.

PENDing [BLOCK] [OLDNAME] name|*
displays the first entry in the pending list with "name" name or all the entries in the pending list (if * specified).

BLOCK

indicates that the pending list is to be checked for BLOCK entries only.

OLDNAME

indicates that the name specified is the original name of the prefix subcommand or macro.

name

indicates the name of the prefix subcommand or macro for which you are searching. If OLDNAME is also specified, name must be the original name of the prefix subcommand or macro, regardless of whether or not a synonym has been assigned to that name. Otherwise it is assumed to be a synonym (that is, a new name) or a name without a synonym.

*

indicates to display all of the entries in the pending list. If BLOCK is also specified, * indicates to display only the block entries.

The information is returned in the following form:

```
Line n:'name', OLDNAME='name', OP1='x', OP2='y', OP3='z'
```

PF [n|*]
displays "BEFORE", "AFTER", "ONLY", or "IGNORE" and the PF key definitions for all PF keys if no argument or * is specified, or for a specific PF key number, if n is specified, as set by the SET PFn subcommand.

`Point [*]`

QUERY POINT displays the symbolic name(s) associated with the current line, or displays a blank string if there are no names specified for this line. QUERY POINT * displays all symbolic names that have been defined, starting at the top of the file including the line number to which each name applies.

`PREfix [Synonym *|name]`

QUERY PREFIX displays "ON", "OFF", or "NULLS" and "RIGHT" or "LEFT" as specified in the SET PREFIX subcommand.

QUERY PREFIX SYNONYM * displays both the old and the new names of the synonyms defined for the prefix subcommand(s) or macro(s).

QUERY PREFIX SYNONYM name displays the synonym for the specified prefix subcommand or macro and its associated old name.

`RANge`

displays the line numbers of the top and bottom of the range defined by the SET RANGE subcommand.

`RECFm`

displays the record format, "F", "V", "FP", or "VP", defined by the SET RECFM subcommand.

`REMOte`

displays "ON" or "OFF" depending upon whether or not a remote terminal is being used or upon the setting specified by the SET REMOTE subcommand.

`RESERved`

displays (on one line) the line numbers of the screen lines currently reserved. The line numbers are displayed in the order that they were reserved.

`RING`

displays the number of files you are editing and the file identification area for each file.

The editor displays the following message:

```
530I nn FILE(S) IN STORAGE.
```

The following information is displayed for each file:

```
fn ft fm recfm lrecl TRUNC=truncno SIZE=sizeno
LINE=lineno COL=colno ALT=altcount
```

where:

`fn`
: is the filename of the file.

`ft`
: is the filetype of the file.

`fm`
: is the filemode of the file.

recfm
: is the record format. F is fixed-length records. V is variable-length records. FP is fixed-length packed. VP is variable length packed.

lrecl
: the logical record length of the largest record permitted in the file.

truncno
: is the truncation column.

sizeno
: is the number of records currently in the file.

lineno
: is the position in the file of the current line.

colno
: is the column number in which the column pointer is located.

altcount
: is the number of alterations since the last autosave or the number set by SET ALT.

SCALe
: displays "ON" or "OFF," and the position of the SCALE as specified in the SET SCALE subcommand (or SCALE prefix subcommand).

SCOPE
: displays "DISPLAY" or "ALL" as specified by the SET SCOPE subcommand.

SCReen
: displays the attributes of the screens that have been defined by the SET SCREEN subcommand preceded by SIZE, WIDTH, or DEFINE.

SELect
: displays the selection level of the current line and the maximum selection level for the file as specified by the SET SELECT subcommand.

Seq8
: displays "OFF" if the XEDIT command or LOAD subcommand was issued with the NOSEQ8 operand; if not, displays "ON."

SERial
: displays the serial identification, the increment value, and the serial number starting value as defined by the SET SERIAL subcommand.

SHADow
: displays "ON" or "OFF" as specified by the SET SHADOW subcommand.

SIDcode
: displays the eight-character string specified in the SIDCODE option of the XEDIT command, the LOAD subcommand, or the SET SIDCODE subcommand.

SIZe
: displays the number of records in the file being edited.

SPAN
displays "ON" or "OFF," "B" or "N," and n as defined in the SET SPAN subcommand.

SPILL
displays "ON," "OFF," or "WORD" as defined by the SET SPILL subcommand.

STAY
displays "ON" or "OFF" as specified in the SET STAY subcommand.

STReam
displays "ON" or "OFF" as specified in the SET STREAM subcommand.

SYNonym [*|*name*]
QUERY SYNONYM displays "ON" or "OFF" as specified in the SET SYNONYM subcommand.

QUERY SYNONYM * displays for each defined synonym its name, its minimum abbreviation, and the associated synonym definition which includes the LINEND char, if specified, and everything that was specified in the SET SYNONYM subcommand after the size of the minimum abbreviation.

QUERY SYNONYM *name* displays the synonym, its minimum abbreviation, and the associated synonym definition which includes the LINEND char, if specified, and everything that was specified in the SET SYNONYM subcommand after the size of the minimum abbreviation.

(If no synonym was defined, only the name is displayed.) For example:

```
SET SYNONYM UP 1 DOWN
QUERY SYN U
```

displays the following: `SYNONYM UP U DOWN`

TABLine
displays "ON" or "OFF" and the position of the TABLINE as defined in the SET TABLINE subcommand (or TABL prefix subcommand).

TABS
displays the tab column numbers defined by the SET TABS subcommand.

TARGet
displays the following information about the character string that matches the last target located via a LOCATE or CLOCATE subcommand: line and column number of the first character in the string; line and column number of the last character in the string. If the last target located was specified with "&," then only information about the last string found is displayed.

displays the following information about targets that have been specified as an absolute line number, a relative displacement from the current line, or a line name: line number and current column position (twice).

Information returned by QUERY TARGET is only guaranteed to be valid when the QUERY is done immediately following the LOCATE or

CLOCATE of the target. Any XEDIT subcommand issued between the LOCATE or CLOCATE of the target and the QUERY has the potential to invalidate the TARGET information.

`TERMinal`
displays "DISPLAY" or "TYPEWRITER" as defined in the SET TERMINAL subcommand.

`TEXT`
displays "ON" or "OFF" as specified in the SET TEXT subcommand.

`TOF`
displays "ON" or "OFF" as determined by the editor. TOF is "ON" when the line pointer reaches top of file (or top of range).

`TOFEOF`
displays "ON" or "OFF" as specified in the SET TOFEOF subcommand.

`TOL`
displays "ON" or "OFF" as determined by the editor. TOL is "ON" when the column pointer reaches zone1-1.

`TRANSLat`
displays "ON" or "OFF," depending on whether or not the user has defined pairs of uppercase translate characters using the SET TRANSLAT subcommand.

`TRunc`
displays the truncation column number as defined by the SET TRUNC subcommand.

`UNIQueid`
displays a unique identifier associated with the file. The identifier has the form "rrrnnnnn" where "rrr" is the number of times XEDIT was called recursively and "nnnnn" is the current autosave number. The uniqueid is also used as the filename for the AUTOSAVE file.

`UNTil`
displays the filetype up through which updates were applied as specified on the XEDIT command or LOAD subcommand.

`UPDate`
displays "ON" or "OFF" as determined by the editor. Update is "ON" when the XEDIT command or LOAD subcommand has been issued and the UPDATE option was specified or implied.

`VARblank`
displays "ON" or "OFF" as specified in the SET VARBLANK subcommand.

`Verify`
displays the verification columns and "ON" or "OFF" as specified in the SET VERIFY subcommand.

`VERShift`
displays n or -n, which is the relative position of the screen over the file, as a result of any LEFT or RIGHT subcommands.

`Width`
: displays the WIDTH value specified in the XEDIT command or LOAD subcommand.

`WRap`
: displays "ON" or "OFF" as specified in the SET WRAP subcommand.

`Zone`
: displays the left and right zone column numbers specified in the SET ZONE subcommand.

`=`
: displays the string in the equal (=) buffer. The = buffer contains the last executed subcommand or macro, or whatever has been specified in the SET = subcommand.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
525E INVALID PFKEY/PAKEY NUMBER,RC=5
538E NO NAME DEFINED,RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
3 'QUERY POINT *' was issued, but no symbolic names are defined.
5 Invalid or missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

QUIT

Use the QUIT subcommand to terminate the current editing session and leave the previous copy of the file, if any, intact on the disk. If the file has been changed during the editing session, the editor displays a warning message asking you to confirm that you want to issue a QUIT (instead of a FILE) subcommand. When issued from a macro, the QUIT subcommand can be used to specify a return code.

The format of the QUIT subcommand is:

QUIT	[n]

where:

n
is a return code that may be specified when QUIT is issued from a macro.

Usage Notes:

1. You can use the QUIT subcommand when you edit a file merely to examine, but not to change, its contents, or whenever you discover you have made errors in editing a file and want to cancel your editing session.

2. If only one file was edited, control is returned to CMS.

3. If more than one file was being edited, only the current file is terminated. Control remains in the edit environment. You can use the CANCEL macro to "quit" multiple files.

4. The QUIT subcommand is initially assigned to the PF3 key.

Notes for Macro Writers:

1. QUIT is defined as a synonym to PQUIT. The PQUIT (protected quit) subcommand causes a warning message to be displayed (see responses) if the file was changed during editing. To bypass the message and have the QUIT subcommand executed directly, you can define QUIT as a synonym to COMMAND QUIT, or you can issue QQUIT, which is an unprotected "quick quit."

   The PQUIT subcommand clears the console stack. If you do not want the console stack to be cleared, use COMMAND QUIT.

2. If QUIT is issued from a macro, control remains in the macro until the macro finishes executing. Then, control is returned to the editor.

   If multiple files were being edited, only the current file is terminated.

   If only one file was being edited, a QUIT issued from a macro sets the return code to 1 and executes the QUIT when the macro completes execution. After issuing the QUIT, any subcommands issued in the macro will result in a return code of 6.

3. QUIT or PQUIT may not be issued from a prefix macro.

Responses:

If only *one* file was edited, the CMS ready message indicates that control has been returned to CMS. If more than one file was being edited, the file that was being edited before the terminated file appears on the screen.

If the file was changed during the editing session, the following message is displayed:

```
577E FILE HAS BEEN CHANGED.  USE QQUIT TO QUIT ANYWAY.,RC=12
```

If you wish to save the changes, issue a FILE subcommand.

On a typewriter terminal, the following message is displayed:

```
553I  EDITING FILE:  fn ft fm
```

Error Messages:

```
509E 'subcommand' SUBCOMMAND NOT VALID FROM A PREFIX MACRO,RC=4
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
553I EDITING FILE:  fn ft fm,RC=3
577E FILE HAS BEEN CHANGED.  USE QQUIT TO QUIT ANYWAY,RC=12
```

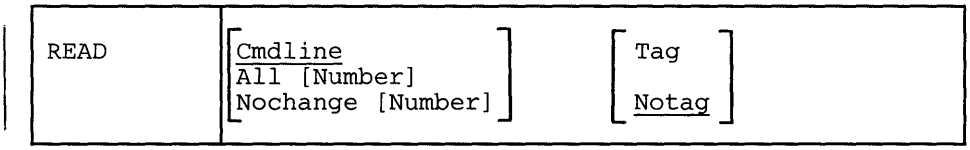
Return Codes:

0	Normal
1	Only one file was edited
4	Invalid when issued from a prefix macro
5	Invalid operand or number
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
12	File has been changed. Use QQUIT to QUIT anyway.

READ

Use the READ subcommand to place information from the terminal in the console stack (LIFO). The READ subcommand is designed to be issued from a macro. After a READ subcommand is executed, a System Product Interpreter macro has access to the stacked information via the REXX PULL instruction. (In an EXEC 2 macro, access can be gained via the &READ control statement).

The format of the READ subcommand is:



where:

`Cmdline`
: indicates that only the command input area is to be stacked in the console stack. This is the default.

`All`
: indicates that all lines changed on the screen will be stacked in the console stack, and the command input area will be stacked as the last line. The corresponding changes will also be made to the copy of the file that is in virtual storage.

`Nochange`
: is similar to the ALL option (above) except that the changes made on the screen are not made to the file being edited but are available from the console stack.

`Number`
: indicates that the lines changed on the screen are to be prefixed by their file line numbers.

`Tag`
: specifies that a tag identifying the origin of the line is inserted at the beginning of each line stacked. (The tags are described in note 5, below.)

`Notag`
: specifies that no tags are inserted in the stacked lines.

Notes for Macro Writers:

1. If the console stack already contains a line when a READ subcommand is issued, the READ is a no-op (no operation takes place).

2. If a READ is issued from a typewriter terminal, only the command line is placed in the stack.

3. A READ subcommand is terminated by pressing either the ENTER key, a PF key, or a PA key; however, a key assigned to COPYKEY, NULLKEY, TABKEY, or the CP BRKKEY does not terminate a READ. Pressing the CLEAR key clears any data that was typed since the last time the ENTER key, a PF key, or a PA key was pressed, but it also does not terminate a READ.

4. Which lines are placed in the console stack depends on:

   - Which operand is specified (Cmdline, All, or Nochange)

   - Whether the READ was terminated by pressing a PF key, a PA key, or the ENTER key.

   Pressing a PF key or a PA key causes the current value of that key to be stacked LIFO. (However, if the key is set to COPYKEY, NULLKEY, TABKEY, or the CP BRKKEY, the key value is not stacked.) The command line is always stacked as the last line, unless a key is set to the ? subcommand, in which case the command line is not stacked. The same lines are stacked whether TAG or NOTAG is specified. The TAG operand causes each line in the stack to be preceded by a tag. The various tags are described in note 5, below.

   Using READ CMDLINE

   If the command line was changed, the console stack contains two lines:

   a. ENTER, PF, or PA key value (depending on which key was pressed)
   b. Command line.

   If nothing was entered on the command line, the console stack contains two lines:

   - ENTER, PF, or PA key value (depending on which key was pressed)
   - A null line (if NOTAG was specified)

   or

   - The tag "CMD" followed by a null string (if TAG was specified).

   Any fields defined within reserved lines (lines reserved by SET RESERVED) are ignored. Any prefix subcommands or macros are executed.

Using READ ALL or READ NOCHANGE

The editor scans the screen (from top to bottom, left to right) and stacks all modified fields. Each modified field is stacked as a separate line. If either the ALL or NOCHANGE operand is used, the console stack contains:

a. ENTER, PF, or PA key value (depending on which key was pressed)
b. Lines and prefix areas changed on the screen (if any)
c. Command line.

If nothing was changed on the screen, the console stack contains two lines:

- ENTER, PF, or PA key value (depending on which key was pressed)
- A null line (if NOTAG was specified)

  or

- The tag "CMD" followed by a null string (if TAG was specified).

5. With the TAG operand specified, each line in the stack is preceded by a tag, which identifies the field. The tags and their meanings are as follows:

CMD - command line
ETK - ENTER key
FIL - file line
PAK - PA key
PFK - PF key
PRF - prefix area
RES - reserved line

The tag is followed by additional information and the modified field itself:

- CMD string

  where string is whatever was typed in the command line.

  The string can be empty if the ENTER key is pressed without entering anything in the command line, or if a command is suppressed by using the ERASE EOF key. In this case, only the tag (CMD) is stacked.

- ETK string

  where string is the ENTER key definition.

- FIL n1 n2 [n3] string

  where:

  `n1 n2`
  are the line number and column number of the beginning of the line on the screen.

  `n3`
  is the corresponding file line number. n3 is returned only if the READ subcommand was issued with the NUMBER option.

`string`
is the changed file line. (String can be empty if the ERASE EOF key was pressed).

- PAK n string

  where:

  `n`
  is the number of the PA key that was pressed to terminate the READ.

  `string`
  is the PA key definition.

  PAK lines are stacked LIFO.

- PFK n string

  where:

  `n`
  is the number of the PF key that was pressed to terminate the READ.

  `string`
  is the PF key definition.

  PFK lines are stacked LIFO.

- PRF n1 n2 [n3] string

  where:

  `n1 n2`
  are the line number and column number of the prefix area on the screen.

  `n3`
  is the corresponding file line number associated with the prefix area. n3 is returned only if the READ subcommand was issued with the NUMBER option.

  `string`
  is whatever was typed in the prefix area. (String can be empty if the ERASE EOF key was pressed). The string is whatever the user typed in the prefix area, as determined by XEDIT. For example, with SET NUMBER OFF, typing "a" in the prefix area returns "a" and not "a====".

- RES n1 n2 string

  where:

  `n1 n2`
  are the line number and column number of the reserved field on the screen.

  `string`
  is the reserved field that was changed. (String can be empty if the ERASE EOF key was pressed.)

Responses:

The message, "MACRO-READ", is displayed in the status area.

Error Messages:

```
509E 'subcommand' SUBCOMMAND NOT VALID FROM A PREFIX MACRO,RC=4
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0	Normal
1	TOF or EOF reached
4	Invalid when issued from a prefix macro
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

RECOVER

Use the RECOVER subcommand to replace a specified number of lines that were removed by a DELETE, a MERGE, or a PUTD subcommand, or a D (delete) prefix subcommand.

The format of the RECOVER subcommand is:

RECover	[n|*|1]

where:

n
: is the number of lines removed by a DELETE, a MERGE, or a PUTD subcommand or a D prefix subcommand that you wish to replace in the file. If you specify an asterisk (*), all deleted lines are replaced. If you omit n, only the last line that was removed is reinserted in the file.

Usage Notes:

1. Once a deleted line is recovered, it is removed from the buffer that contains recoverable lines. Therefore, DELETE followed by multiple RECOVER subcommands cannot be used to duplicate a line at various locations in a file.

2. When multiple files are being edited, there is only *one* buffer for all removed lines. Thus, a line could be deleted in one file and recovered in another file.

3. RECOVER subcommands do *not* have a one-to-one correspondence with DELETE subcommands. The following is a valid sequence:

```
DELETE 2
   .
   .
   .
DELETE 3
   .
   .
   .
RECOVER 1
   .
   .
   .
RECOVER 4
```

4. The size of the recoverable lines buffer depends on the amount of virtual storage.

5. If you are editing a file in update mode (where the status area indicates UPDATE-MODE), deleted lines that are reflected in an update file can not be recovered. Please refer to XEDIT command in this publication for more information on update mode.

Response:

The line(s) that is recovered is inserted just before the current line. The following message is displayed:

```
502I  nn  LINE(S)  RECOVERED.,RC=3
```

The recovered line becomes the new current line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
502I nn  LINE(S)  RECOVERED,RC=3
```

Return Codes:

0 'n' lines have been inserted
3 Pool of deleted lines is empty
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

REFRESH

Use the REFRESH subcommand to display the screen. Issued from a macro, it presents the screen as of that moment in processing, without waiting for input.

The format of the REFRESH subcommand is:

REFRESH	

Note to Macro Writers:

REFRESH can be used to update the display on the screen without exiting the macro.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
117S ERROR WRITING TO DISPLAY TERMINAL,RC=8
```

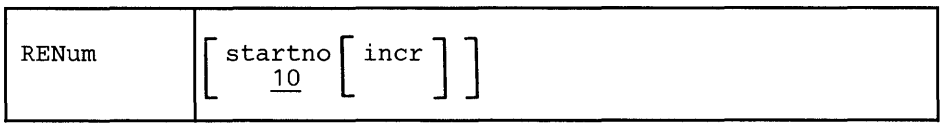
Return Codes:

0 Normal
3 Subcommand valid only for display terminal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
8 I/O error writing to screen

RENUM

Use the RENUM subcommand to renumber the line numbers of VSBASIC or FREEFORT files.

The format of the RENUM subcommand is:



where:

`startno`
specifies the first line number of the file. If you omit startno, the file starts with line number 10.

`incr`
specifies the value by which each line number is incremented. If you omit incr, the value specified as startno is assumed.

Usage Notes:

1. The startno and incr values cannot exceed 99999 for VSBASIC files or 99999999 for FREEFORT files.

2. This subcommand is intended to be used in EDIT migration mode; XEDIT does not perform line number editing.

3. This subcommand should not be used for a VSBASIC file that has a logical record length greater than 256.

Error Messages:

```
002E FILE 'DMSXRE MODULE *' NOT FOUND,RC=28
520E INVALID OPERAND : operand,RC=5
531E DISK IS FULL.  SET NEW FILEMODE OR CLEAR SOME DISK SPACE,RC=1
535E INVALID PARMS FOR RENUM.,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
104S ERROR 'nn' READING FILE 'fn ft fm' FROM DISK,RC=100
105S ERROR 'nn' WRITING FILE 'fn ft fm' ON DISK.,RC=100
(See also EDIT messages.)
```

Return Codes:

0	Normal
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
13	Disk is full
28	File not found
100	Error reading/writing file to disk

REPEAT

Use the REPEAT subcommand to advance the line pointer and to execute the last subcommand that was entered. The REPEAT subcommand is equivalent to executing the two subcommands, NEXT 1 (or UP 1) and =, for a specified number of times.

The format of the REPEAT subcommand is:

REPEat	[target|1]

where:

target
: specifies the number of times that the REPEAT subcommand executes, starting on the line following the current line. REPEAT computes the number of lines between the current line and the line preceding the target line. The last subcommand entered is then REPEATed for this number of times. If you specify an asterisk (*), the previous subcommand is repeated up to the end of file. If you omit target, the previous subcommand is executed on the line following the current one.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Notes:

1. If the target is in a forward direction, REPEAT is equivalent to:

   ```
   NEXT 1
   =
   ```

2. If the target is in a backward direction, that is, specified with a leading minus (-) sign, REPEAT is equivalent to:

   ```
   UP 1
   =
   ```

3. If the previous subcommand contains a target or is a subcommand whose purpose is to move the line pointer (such as NEXT), the execution of the REPEAT subcommand may occur beyond the line specified by the target of the REPEAT.

4. If the previous subcommand results in a non-zero return code, the execution of the REPEAT subcommand will terminate on that line.

Response:

The response, if any, from the repeated subcommand is displayed.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

1	TOF or EOF reached
2	Target not found
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
nn	Same as the repeated subcommand's return codes

REPLACE

Use the REPLACE subcommand to replace the current line with a specified line or to delete the current line and enter input mode.

The format of the REPLACE subcommand is:

Replace	[text]

where:

`text`
specifies an input line that is to replace the current line. If a line is specified, the editor puts it into the file in place of the current line. If no line is specified, the editor deletes the current line and enters input mode.

Usage Notes:

1. If a REPLACE subcommand is issued when the current line is the TOP OF FILE line, the text is inserted after the TOP OF FILE line. If it is issued when the current line is the END OF FILE line, the text is inserted before the END OF FILE line.

2. If SET SPILL OFF is in effect (the default) characters that have been pushed beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines starting with the first character or word that would have gone beyond the truncation column.

Responses:

When you issue a REPLACE subcommand with no operand, the following message is displayed:

```
573I INPUT MODE:
```

Error Messages:

```
503E {TRUNCATED|SPILLED},RC=3
557S NO MORE STORAGE TO INSERT LINES.,RC=4
```

Return Codes:

0 Normal
3 Truncated or spilled
4 Not enough storage to accommodate added lines
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Current Line:

```
===== This is the current line.
REPLACE Now this is the new current line.
===== Now this is the new current line.
```

RESET

Use the RESET subcommand to remove all prefix subcommands or macros when the screen is in a "pending" status.

The format of the RESET subcommand is:

RESet	

Usage Notes:

1. The RESET subcommand removes all prefix subcommands and/or macros when the screen displays a pending status.

2. To remove prefix subcommands or macros when the screen is not in a pending status, press the CLEAR key.

3. RESET does not reset the prefix area of shadow lines or any lines outside the defined scope. See SET SCOPE.

Note for Prefix Macro Writers:

If a user enters RESET when a prefix macro is pending, that macro is invoked with the argument string "PREFIX CLEAR pline" where "pline" is the line number for the line on which the prefix macro was pending. When the macro examines the argument string and finds it was invoked with the CLEAR argument, it would (normally) stop processing. (For a complete description of the argument string that is automatically passed to a prefix macro, see *VM/SP System Product Editor User's Guide,* Chapter 7.)

Response:

The original prefix area (equal signs or line numbers) replaces any prefix subcommands or macros that were typed in.

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Example:

If a block of lines to be moved or copied is initiated by typing MM or CC in the first and last lines of the block, but the destination line has not yet been entered (via P or F), the operation can be canceled by RESET.

RESTORE

Use the RESTORE subcommand to restore the settings of the XEDIT variables to the values they had when the PRESERVE subcommand was last issued.

The format of the RESTORE subcommand is:

RESTore	

Usage Notes:

1. Refer to the PRESERVE subcommand for a list of the variables affected by the RESTORE subcommand.

2. If the column pointer was located outside the restored zone settings, it is repositioned to the left or right zone. If the column pointer was positioned to the left of the new zone, it moves to Top of Line (TOL). If it was positioned beyond the new right zone, it moves to End of Line (EOL).

Error Messages:

```
507E NO PRESERVED DATA TO RESTORE,RC=3
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
1 The column pointer was located outside the restored zone settings
3 No PRESERVE has been issued
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

RGTLEFT (Macro)

Use the RGTLEFT macro to view columns of data that are not currently visible on the screen.

The format of the RGTLEFT macro is:

RGTLEFT	[n]

where:

n
: is the number of columns that you want the screen to be moved. Whether the screen moves to the right or the left depends on the current VERSHIFT value (see usage note 3). If n is not specified, the screen is moved up to a maximum of three-fourths of the logical screen width (for example, 60 characters on an 80-character screen). If the logical record length is less than this value (screen width plus 3/4 screen width), the screen moves only enough to display the rest of the logical record.

Usage Notes:

1. The RGTLEFT macro does not cause data to be lost, nor does it move the line or column pointer.

2. The RGTLEFT macro is most useful when assigned to a PF key. The PF10 key is initially set to RGTLEFT. Pressing the PF key enables you to see data to the right of the screen; pressing the PF key again returns the screen to the original view of the file.

3. The current VERSHIFT setting (see QUERY VERSHIFT) determines whether the view is moved right or left when RGTLEFT is issued. If VERSHIFT is less than or equal to zero, the view is moved to the right, making the VERSHIFT value greater than zero. When VERSHIFT is greater than zero, the view is moved back to the left, returning to the original display of the file.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
529E RGTLEFT IS ONLY VALID IN DISPLAY MODE, RC=3
543E INVALID NUMBER : xxxxxxxx,RC=5
576E TOTAL OFFSET EXCEEDS LRECL (nn).,RC=5
```

Return Codes:

0 Normal
3 RGTLEFT valid in display mode only
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

RIGHT

Use the RIGHT subcommand to view columns of data that are not currently visible on the screen. The RIGHT subcommand allows you to see data that is *to the right of the last* (right-most) *column* on the screen. The data moves to the left, thus allowing you to see a specified number of positions to the right of the last column.

The format of the RIGHT subcommand is:

RIght	[n|1]

where:

n
: specifies the number of positions to the right of the last column on the screen that you want to see. If you omit n, one position to the right of the last column becomes visible.

Usage Notes:

1. The RIGHT subcommand does not cause data to be lost, nor does it move the line or column pointer.
2. To get the data back to its original position, use the LEFT n subcommand. See also the RGTLEFT macro.
3. RIGHT subcommands are cumulative. For example:

   ```
   RI 10
   RI 10
   ```

   is equivalent to

   ```
   RI 20
   ```

4. If you have issued several RIGHT and/or LEFT subcommands and have forgotten the total value of n:

   a. RIGHT 0 or LEFT 0 restores the screen to its original display.

   b. SET VERIFY resets RIGHT (or LEFT) to zero.

   c. QUERY VERSHIFT displays n (the result of a RIGHT) or -n (the result of a LEFT).

5. The total number of columns moved cannot exceed the logical record length.

Notes for Macro Writers:

EXTRACT/VERSHIFT/ returns the value of n or -n.

Response:

The data on the screen moves to the left.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
576E TOTAL OFFSET EXCEEDS LRECL (nn).,RC=5
```

Return Codes:

0 Normal
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-12 is a before-and-after example of the RIGHT subcommand.

```
 OGDEN    NASH     A1  V 80  TRUNC=80 SIZE=28 LINE=20 COL=1 ALT=0
=====
===== THE SONG OF CANARIES
===== NEVER VARIES.
===== AND WHEN THEY'RE MOULTING
===== THEY'RE PRETTY REVOLTING.
=====
===== THE GIRAFFE
=====
===== I BEG YOU, CHILDREN, DO NOT LAUGH
===== WHEN YOU SURVEY THE TALL GIRAFFE.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== IT'S HARDLY SPORTING TO ATTACK
===== A BEAST THAT CANNOT ANSWER BACK.
===== HE HAS A TRUMPET FOR A THROAT,
===== AND CANNOT BLOW A SINGLE NOTE.
===== IT ISN'T THAT HIS VOICE HE HOARDS;
===== HE HASN'T ANY VOCAL CORDS.
===== I WISH FOR HIM, AND FOR HIS WIFE,
===== A VOLUBLE GIRAFTER LIFE.
===== * * * END OF FILE * * *
====> RIGHT 10
                                                        X E D I T  1 FILE
```

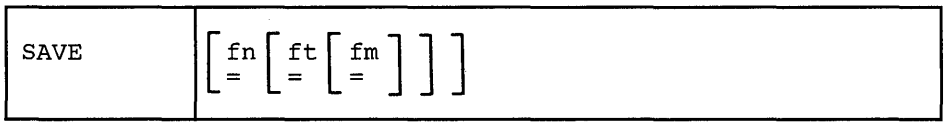
```
 OGDEN    NASH     A1  V 80  TRUNC=80 SIZE=28 LINE=20 COL=1 ALT=0
=====
===== F CANARIES
===== ES.
===== HEY'RE MOULTING
===== ETTY REVOLTING.
=====
===== E
=====
=====  CHILDREN, DO NOT LAUGH
===== URVEY THE TALL GIRAFFE.
      ....+....2....+....3....+....4....+....5....+....6....+....7....+....>...
===== Y SPORTING TO ATTACK
===== AT CANNOT ANSWER BACK.
===== RUMPET FOR A THROAT,
=====  BLOW A SINGLE NOTE.
===== HAT HIS VOICE HE HOARDS;
===== ANY VOCAL CORDS.
=====  HIM, AND FOR HIS WIFE,
===== GIRAFTER LIFE.
===== * * * END OF FILE * * *
====>
                                                        X E D I T  1 FILE
```

Figure 3-12. The RIGHT Subcommand - Before and After

SAVE

Use the SAVE subcommand to write the file that is currently being edited on disk without returning control to CMS, and, optionally, to change the file identifier.

The format of the SAVE subcommand is:



where:

`fn`
: indicates the filename of the file to be saved. If you specify only fn, the filetype and filemode remain the same.

`ft`
: indicates the filetype of the file to be saved.

`fm`
: indicates the filemode of the file to be saved.

Usage Notes:

1. If you specify a new file identifier, the original copy of the file on disk is not changed. Changing the file identifier simply creates another copy of the file with a new file identifier.

2. If you change the file identifier (to a unique file identifier) and the file being edited has been previously written to disk, that copy of the file is not altered.

   However if you change the file identifier while editing a file so that it is identical to that of an existing file, the editor stops the SAVE operation and displays the following warning:

   ```
   594E FILE 'fn ft fm' ALREADY EXISTS.  USE FFILE/SSAVE.
   ```

   If you want to write over the existing file, enter SSAVE (abbreviated SS). If not, change the file identifier so that it is unique and re-issue the SAVE subcommand.

   This "protected SAVE" works in the following way. SAVE is defined as a synonym to PSAVE, which is the protected equivalent of SAVE. SSAVE is a synonym for COMMAND SAVE.

3. To write a file on disk and end the editing session, use the FILE subcommand instead of the SAVE subcommand.

4. If you want a file to be saved automatically at regular intervals, use the SET AUTOSAVE subcommand.

5. The operand fn, ft, or fm may be specified as an equal (=) sign, in which case the corresponding value of the file currently being edited is used.

6. If the automatic save function is in effect (SET AUTOSAVE subcommand), the corresponding AUTOSAVE file is erased when a SAVE is executed.

Error Messages:

```
037E DISK 'mode' IS READ ONLY.,RC=12
048E INVALID MODE 'mode'.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
069E DISK 'mode' NOT ACCESSED.,RC=36
520E INVALID OPERAND : operand,RC=5
531E DISK IS FULL. SET NEW FILEMODE OR CLEAR SOME
     DISK SPACE.,RC=13
594E FILE 'fn ft fm' ALREADY EXISTS.  USE FFILE/SSAVE, RC=3
105S ERROR nn WRITING FILE 'fn ft fm' ON DISK, RC=100
598S UNABLE TO BUILD UPDATE FILE : INTERNAL LIST
     DESTROYED.,RC=7
599S UNABLE TO BUILD UPDATE FILE : SERIALIZATION
     DESTROYED.,RC=7
```

Return Codes:

- 0 Normal
- 3 File already exists
- 5 Invalid operand
- 6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
- 7 Error building the update file
- 12 Disk defined in filemode is read-only
- 13 Disk is full
- 20 Invalid character in filename or filetype
- 24 Invalid filemode
- 36 Disk not accessed
- 100 Error writing file to disk

SCHANGE (Macro)

Use the SCHANGE (selective change) macro to locate every occurrence of a string and to change that string only when you choose.

The SCHANGE macro can be used when it has been assigned to a PF key and when a CHANGE or CLOCATE subcommand has been typed in the command line.

If used with CLOCATE, only one PF key is needed. If used with CHANGE, two PF keys are required: one to locate the string; the other to perform the change.

Each time the PF key assigned to SCHANGE (via the SET PFn subcommand) is pressed, the cursor is placed under the next occurrence of the string specified in the CHANGE or CLOCATE subcommand. The search for the string starts with the current column in the current line and continues throughout the file.

If a CHANGE /string1/string2/ subcommand has been typed in the command line, pressing the *second* PF key will change string1 to string2. (This second PF key has no effect when the CLOCATE subcommand is used.)

If you press the PF key assigned to SCHANGE without first typing a CLOCATE or CHANGE subcommand, the SCHANGE macro automatically repeats the subcommand that is saved in the LASTLORC buffer (see SET LASTLORC subcommand in this book.)

The format of the SCHANGE macro is:

`SCHANGE`	`[keynumber]`

where:

`keynumber`
: is the PF key number that causes the CHANGE to be executed, after the string has been located by pressing the PF key assigned to SCHANGE. SET PF5 SCHANGE 6 is the default assigned by the editor, but any numbers can be used.

Usage Notes:

1. Pressing the PF key assigned to SCHANGE causes the cursor to move but does not cause the line pointer to move (unless the screen is scrolled forward).

2. The screen scrolls forward automatically after all occurrences of the string have been located on the current screen.

   The screen does not scroll forward if the string does not appear in the rest of the file.

3. Pressing the PF key assigned to SCHANGE places the cursor under the first character of the string.

   Pressing the second PF key causes string1 to be replaced by string2.

4. The advantage of using SCHANGE with CLOCATE (rather than CLOCATE and =) is that the cursor is placed under the matching string.

5. SCHANGE will not change a string located to the left or right of the screen.

6. SCHANGE can be assigned to a PA key instead of a PF key, however, the key number specified on the SCHANGE subcommand must be that of a PF key.

Responses:

Each time a string is located, the cursor is placed under the first character of the string, and the line containing the string is highlighted.

If a CLOCATE subcommand is typed in the command line or saved in the LASTLORC buffer and the first PF key is pressed, the following message is displayed when a string is located:

```
551I TARGET string1 FOUND.
```

If a CHANGE subcommand is typed in the command line or saved in the LASTLORC buffer and the first PF key is pressed, the following message is displayed when a string is located:

```
551I STRING string1 FOUND. --- PFxx SET
     FOR SELECTIVE CHANGE.
```

When the second PF key is pressed, the following message is displayed:

```
STRING string1 CHANGED TO string2
```

If you press the PF key assigned to SCHANGE without first typing a CHANGE or CLOCATE in the command line, and the LASTLORC buffer does not contain a CHANGE or CLOCATE subcommand, the following message is displayed:

```
569E NO 'CHANGE' OR 'CLOCATE' SUBCOMMAND SPECIFIED, RC=5
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
525E INVALID PFKEY NUMBER,RC=5
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=1
545E MISSING OPERAND(S),RC=5
561E CURSOR IS NOT ON A VALID DATA FIELD
569E NO 'CHANGE' OR 'CLOCATE' SUBCOMMAND SPECIFIED, RC=5
574E CHANGE NOT VALID [WITH CLOCATE|AFTER CURSOR MOVEMENT]
586E NOT FOUND ON SCREEN,RC=2
```

Return Codes:

0	Normal
1	Subcommand valid only in display mode
2	Not found
5	Invalid or missing operands
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro caller from the last file in the ring

SET

Use the SET subcommand to change the settings of various editing options while editing is in progress. Only one option may be specified in each SET subcommand. SET cannot be issued without an option. Use the QUERY subcommand to display the initial settings of SET options or the values set by previously issued SET subcommands.

The options available with SET are summarized below. A complete description of each option follows.

```
ALT             LINENd          SELect
APL             LRecl           SERial
ARBchar         MACRO           SHADow
AUtosave        MASK            SIDcode
CASE            MSGLine         SPAN
CMDline         MSGMode         SPILL
COLOR           NONDisp         STAY
COLPtr          NULls           STReam
CTLchar         NUMber          SYNonym
CURLine         PAn             TABLine
DISPlay         PACK            TABS
ENTer           PENDing         TERMinal
ESCape          PFn             TEXT
FILler          Point           TOFEOF
FMode           PREfix          TRANSLat
FName           RANge           TRunc
FType           RECFm           VARblank
FULLread        REMOte          Verify
HEX             RESERved        WRap
IMage           SCALe           Zone
IMPcmscp        SCOPE           =
LASTLorc        SCReen
```

Notes:

1. The subcommand name SET is generally optional.

2. The editor assigns initial settings for each SET subcommand option. When you issue a SET subcommand, only those operands that you override are changed. All other operands retain their initial setting or default value.

SET ALT

Use the ALT option to change the number of alterations that have been made to the file since the last AUTOSAVE and/or since the last SAVE. This count is displayed in the file identification line as ALT=n.

The format of the SET ALT subcommand is:

SET	ALT n [p]

where:

n
represents the alteration count since the last AUTOSAVE.

p
represents the total alteration count since the last SAVE. If you omit p, the total alteration count since SAVE remains unchanged.

Initial Setting:

Both counts are initially set to zero.

Usage Notes:

1. Both counts may be reset. If only one operand is specified (SET ALT n), the first count is reset. If two operands are specified, then both counts are reset.

2. The subcommand "SET" is required with this option (to avoid conflict with the ALTER subcommand).

3. The alteration count represents the number of subcommands that were executed which changed the file and the number of lines modified when typing on the full screen. Macros which issue numerous commands that change the file may increase the count by more than one.

4. SET ALT is intended to be used from within a macro. It should not be used for interactive editing, since it can cause AUTOSAVE not to occur.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Invalid or missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET APL

Use the APL option to inform the editor if APL keys are available on the terminal.

The format of the SET APL subcommand is:

[SET]	APL ON OFF

where:

ON
: specifies that APL keys are available. You must issue a SET APL ON before using these keys so that proper character code conversion takes place.

OFF
: specifies that no code conversion is to be performed for APL keys.

Initial Setting:

As defined by the CP TERMINAL APL setting when the editor is invoked.

Usage Notes:

1. If a terminal is equipped with the APL feature, special APL keys are available. Before using these keys, you must inform the editor so that proper character code conversion takes place. There are two ways to inform the editor:

   a. In CP mode, you can issue a TERMINAL APL ON command, which will be recognized when the editor is invoked.

   b. If the CP TERMINAL command has not been issued in CP mode, you must issue the editor SET APL subcommand.

   If instead, you issue a TERMINAL command directly to CP while in edit mode (via the CP or CMS subcommand or in subset mode), the editor will *not* recognize the command and will not perform the necessary conversions.

   If you have issued the editor SET APL subcommand (not the CP TERMINAL command), then APL characters will not be properly translated on messages that are displayed on a cleared screen.

2. Because the conversion is costly, it is recommended that you issue the XEDIT subcommand SET APL OFF when you stop using the special keys.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
524W NONDISP CHARACTER RESET TO ".
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET ARBCHAR

Use the ARBCHAR option to define an arbitrary character to be used in a target definition. An arbitrary character used between character strings in a target definition means, "all intervening characters are to be ignored."

The format of the SET ARBCHAR subcommand is:

[SET]	ARBchar ON [char] OFF

where:

ON
: turns on the use of a special character as an arbitrary character.

char
: is the special character. The initial setting is a dollar sign ($). Several consecutive occurrences of the arbitrary character are equivalent to one.

OFF
: turns off the use of a special character as an arbitrary character without changing the current character definition.

Initial Setting:

```
ARBCHAR OFF $
```

Usage Notes:

1. Arbitrary characters can be used in targets and in the CHANGE subcommand.
2. The arbitrary character may be specified in hexadecimal if SET HEX ON is in effect.

Examples:

1. `LOCATE /air$plane/`

   will locate in the file

   `"the airplane was landing"`

   and will also locate in the file

   `"cold air surrounded the plane"`

2. `CLOCATE /($)/`

   will locate the first expression in the line that is in parentheses.

3. Any special character can be SET as an arbitrary character. If the arbitrary character is used consecutively a number of times in a target definition, it is treated as one, thus allowing, for example, the use of ellipsis.

For example:

```
SET ARBCHAR ON
LOCATE  /air...plane/
```

is equivalent to

```
LOCATE  /air.plane/
```

Both will locate

"airplane" or "cold air surrounded the plane"

in the file.

4. Using CHANGE with SET ARBCHAR:

   String2 must not contain more arbitrary characters than string1. If it does, the following error message is displayed:

```
511E STRING2 CONTAINS MORE ARBITRARY
     CHARACTERS THAN STRING1,RC=5
```

   For example:

Subcommand:	`SET ARBCHAR ON $`
File Line:	`the white house with several large windows`

Subcommand:	`C /the$house$windows/a$farmhouse$two$shutters/`
Result:	`error message`

Subcommand:	`C /the$house$windows/a$farmhouse$shutters/`
Result:	`a white farmhouse with several large shutters`

String2 can have fewer arbitrary characters than string1. For example:

File Line:	`the white house with several large windows`
Subcommand:	`C/the$house$windows/a$large farmhouse/`
Result:	`a white large farmhouse`

Special use of an arbitrary character:

If a dollar sign ($) is the arbitrary character, it may be used in string1 and/or string2 in the following ways:

string1: `/$A/`

The $ means, "the string starting in the zone1 column and ending with the character that precedes A." (If no zone is defined, the string starts in column 1.)

Example:

```
CHANGE  /$A/A/
```

deletes all characters that precede A within the same zone.

string1: `/B$/`

The $ means, "the string starting with the character following B and ending at the truncation column." If SET ZONE has been issued, the string ends at the zone2 column rather than the truncation column.

Example:

```
CHANGE /B$/B/
```

deletes the characters that follow B.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

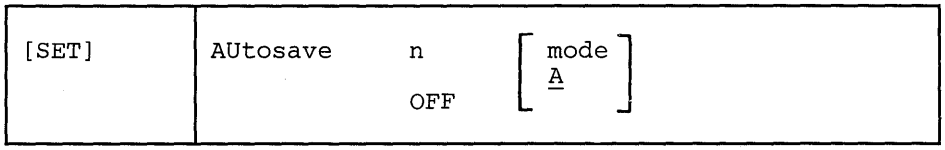
Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET AUTOSAVE

Use the AUTOSAVE option to set or reset the automatic save function of the editor. When the automatic save function is in effect, the editor automatically issues a SAVE subcommand each time the specified number of alterations is made.

The format of the SET AUTOSAVE subcommand is:



where:

n
: is a number that specifies the frequency of the automatic save function. One SAVE subcommand is issued for every n subcommands that change, delete, or add lines to the file. In a full screen environment, each line changed (by over-typing) counts as one. The automatic SAVE occurs when this number equals or exceeds n.

OFF
: turns off the automatic save function.

mode
: specifies the mini-disk on which the file is written. The default is the A-disk.

Initial Setting:

AUTOSAVE OFF

Usage Notes:

1. You can use the QUERY AUTOSAVE subcommand to display the current AUTOSAVE setting. The file identification line indicates the number of changes since the last AUTOSAVE (ALT=n).

2. When AUTOSAVE is in effect, SAVE or FILE subcommands will erase the corresponding AUTOSAVE file. The QUIT subcommand will not erase it.

3. If the system crashes during an editing session, you can erase the original file, rename the AUTOSAVE file, and resume editing; the file will reflect all changes made up to the time of the last AUTOSAVE. For an example, please refer to the publication, *VM/SP System Product Editor User's Guide.*

4. To recover from an erroneous change to the file, for example, a bad global change, you should immediately issue a QUIT subcommand, erase the file, rename the AUTOSAVE file, and continue. However if the ALT count in the file identification line is 0, the erroneous change has already been saved and this technique will not recover from it.

Notes for Macro Writers:

You can use the EXTRACT/AUTOSAVE/ subcommand to return the autosave information for further processing by a macro.

Responses:

Each time an automatic save occurs, the editor writes the file on your A-disk (or on the disk specified in the SET AUTOSAVE subcommand). It assigns the file a unique eight-digit filename and a filetype of AUTOSAVE. QUERY UNIQUEID displays the unique AUTOSAVE filename.

The identifier has the form 'rrrnnnnn' where 'rrr' is the number of times XEDIT was called recursively and 'nnnnn' is the current autosave number.

If no other AUTOSAVE file exists, the filename and filetype are:

```
100001  AUTOSAVE
```

If an AUTOSAVE file exists, the filename is the next available number.

When an autosave occurs, the following message is displayed:

```
510I AUTOSAVED AS 'fn ft fm'
```

Error Messages:

```
037E DISK 'mode' IS READ ONLY,RC=12
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

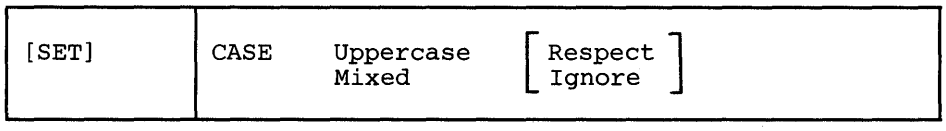
Return Codes:

0	Normal
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
12	Disk is read only
24	Invalid filemode
36	Corresponding disk not accessed

SET CASE

Use the CASE option to control how letters are entered into the file and to specify if uppercase and lowercase letters are to be significant in target searches.

The format of the SET CASE subcommand is:



where:

`Uppercase`
indicates that the editor is to translate all lowercase letters to uppercase before the letters are entered into the file (whether the lines are entered from the terminal or from the console stack).

`Mixed`
indicates that the editor is to insert uppercase and lowercase letters in the file in the same way they are entered. No letters are translated.

`Respect`
In target searches, an uppercase letter will not match a lowercase letter (and vice versa). For example:

```
/This Text/
```

will not locate

```
"this text"
```

in the file.

`Ignore`
In target searches, uppercase and lowercase representations of the same letter will match. For example:

```
LOCATE /THIS TEXT/
```

will locate

```
"this text"
```

in the file.

Initial Setting::

Based on filetype. See "Appendix A."

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET CMDLINE

Use the CMDLINE option to specify the position of the command line on the screen.

The format of the SET CMDLINE subcommand is:

[SET]	CMDline	On OFf Top Bottom

where:

On
: defines the last two lines of the screen as the command input lines.

OFf
: removes the command line from the screen.

Top
: defines the second line of the screen as the command line.

Bottom
: defines the last line on the screen as the command input line.

Initial Setting:

```
CMDLINE  ON
```

Usage Notes:

1. When CMDLINE is set to TOP, BOTTOM, or OFF, no XEDIT status area is displayed.

2. Before setting CMDLINE OFF, you should establish a method of resetting the CMDLINE, perhaps by setting a PF key or through the use of a prefix macro, if you wish to use the command line again.

3. The command line can not be overlayed by a reserved line unless it is first set OFF.

4. If CMDLINE ON is in effect and you split the screen vertically (see SET SCREEN), only one line is available as a command line when two views are adjacent. However, when you return to a single screen, both lines are again available. SET CMDLINE ON is invalid when issued from a vertical split screen.

5. With CMDLINE TOP and the default SET MSGLINE setting (line 2), a message overlays the command line, including the arrow. You must press the CLEAR key (or any key that does not produce a message) to restore the command line. To avoid this situation, assign the message line to line 1 or line 3 (see SET MSGLINE) when using CMDLINE TOP.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
526E OPTION 'CMDLINE' VALID IN DISPLAY MODE ONLY,RC=3
545E MISSING OPERAND(S),RC=5
568E SUBCOMMAND NOT VALID WITH THIS SCREEN DEFINITION,RC=5
```

Return Codes:

0 Normal
3 Operand is valid only for display terminal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET COLOR

Use the COLOR option to associate specific colors with certain areas of the XEDIT screen.

The format of the SET COLOR subcommand is:

[SET]	COLOR field [color] [exthi] [High|Nohigh] *

where:

*
indicates all of the fields listed below.

`field`
can be any of the following areas on the screen.

`Arrow`
the arrow pointing to command line.

`Cmdline`
the line where commands are entered.

`CUrline`
the file line that is the current line.

`Filearea`
file data area.

`Idline`
the file identification line on line 1 of the screen.

`Msgline`
the area used to display messages.

`Pending`
the pending macro or subcommand as entered in the prefix area.

`PRefix`
the five-position area that lies either to the left or the right of each line of the file, as defined by SET PREFIX.

`Scale`
the scale line.

`SHadow`
shadow line(s) resulting from SET DISPLAY.

`STatarea`
status area in lower right-hand corner of screen which displays the current status of your editing session.

`Tabline`
the line which displays a "T" in every tab column, according to the current tab settings.

TOfeof
: the top of file and end of file notices.

color
: can be any one of the following:

```
Blue
Red
Pink
Green
Turquoise
Yellow
White
Default
```

If you omit color, the current color is not changed.

exthi
: extended highlighting can be any one of the following:

```
BLInk
REVvideo  (reverse video)
Underline
NONe
```

If you omit exthi, the current extended highlighting setting is not changed.

High
: field is to be displayed highlighted

Nohigh
: field is to be displayed not highlighted (normal intensity)

If you omit High | Nohigh, the current High | Nohigh setting is not changed. Note that High | Nohigh is affected by usage note 1.

Initial Settings:

FIELD	COLOR	EXTHI	HIGH/NOHIGH
ARROW	DEFAULT	NONE	HIGH
CMDLINE	DEFAULT	NONE	NOHIGH
CURLINE	DEFAULT	NONE	HIGH
FILEAREA	DEFAULT	NONE	NOHIGH
IDLINE	DEFAULT	NONE	HIGH
MSGLINE	RED	NONE	HIGH
PENDING	DEFAULT	NONE	HIGH
PREFIX	DEFAULT	NONE	NOHIGH
SCALE	DEFAULT	NONE	HIGH
SHADOW	DEFAULT	NONE	NOHIGH
STATAREA	DEFAULT	NONE	HIGH
TABLINE	DEFAULT	NONE	HIGH
TOFEOF	DEFAULT	NONE	NOHIGH

Usage Notes:

1. The SET COLOR subcommand accepts the color and extended highlighting operands regardless of whether or not the device has the ability to use those attributes. However, the action taken is dependent upon the device. For example, HIGH and NOHIGH are ignored on a 3279 display (unless the color was DEFAULT), color is ignored on a 3278 display, and color and extended highlighting are ignored on a 3277 display. Also, QUERY/EXTRACT return all the current settings, even those that may be ignored on any given terminal.

2. The attributes following the field keyword may appear in any order. Only one attribute is required following the field.

3. If TOFEOF is set off (see SET TOFEOF in this publication), the extended highlighting attributes (reverse video and underline) still will be visible.

4. The color and extended highlighting of the current line override the color and extended highlighting of the filearea and TOFEOF for any line that is the current line.

5. The color and extended highlighting of the scale override the color and extended highlighting of the tabline when the scale and tabline are on the same line.

Error Messages:

```
520E  INVALID OPERAND : operand,RC=5
545E  MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Invalid or missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET COLPTR

Use the COLPTR option only with typewriter terminals to control whether or not the column pointer (represented as an underscore character) is displayed.

The format of the SET COLPTR subcommand is:

[SET]	COLPtr ON OFF

where:

ON
displays the column pointer.

OFF
removes the column pointer from the display.

Initial Setting:

COLPTR ON (typewriter terminals only)

Usage Note:

In order for the column pointer to be displayed, your typewriter terminal must be equipped with a backspace key.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET CTLCHAR

Use the CTLCHAR option to define a control character, which specifies that part of a reserved line is to be displayed with or without the following features:

- Color
- Extended highlighting
- Highlighting
- Protection
- Visibility.

This option is designed to be issued from a macro, particularly when you are creating display panels and other interactive information. It applies to lines reserved by the SET RESERVED subcommand.

The format of the SET CTLCHAR subcommand is:

```
[SET]    CTLchar char Escape
                  OFF
                  Protect   [color] [exthi] [High|Nohigh|Invisible] [PS,]
                  Noprotect [color] [exthi] [High|Nohigh|Invisible] [PS,]
               OFF
```

where:

`char`
: is any character, uppercase or lowercase, which is interpreted as a control character when embedded in the text to be displayed. If specified with the ESCAPE operand, this character identifies the next character in the text as a control character. No more than 64 characters can be defined.

`OFF`
: resets all control characters that have been defined (SET CTLCHAR OFF), or resets a specified character (SET CTLCHAR char OFF).

`Escape`
: specifies that the designated character (char) is a control character identifier; that is, when this character appears in the text, the next character in the text is interpreted as a control character.

`Protect`
: specifies that the string following "char" is to be displayed in a protected field.

Noprotect
specifies that the string following "char" is to be displayed in an unprotected field.

color
color can be any one of the following:

```
Blue        Turquoise
Red         Yellow
Pink        White
Green       Default
```

If you omit color, the default is DEFAULT (the default base color).

exthi
extended highlighting can be any one of the following:

```
BLInk
REVvideo - reverse video
Underline
NONe
```

If you omit exthi, the default is NONE (no extended highlighting).

High
specifies that the string following "char" is to be displayed highlighted. If you omit High | Nohigh | Invisible, Nohigh is assigned.

Nohigh
specifies that the string following "char" is to be displayed not highlighted (normal intensity). If you omit High | Nohigh | Invisible, Nohigh is assigned.

Invisible
defines a field where the characters are not displayed, for example, a password. If you omit High | Nohigh | Invisible, Nohigh is assigned.

Initial Setting:

No control characters are defined. CTLCHAR is set OFF.

Notes for Macro Writers:

1. If you use SET CTLCHAR to set up multiple fields within reserved lines, particularly input (unprotected) fields, you should use READ with the TAG option. Multiple fields on a single reserved line are stacked separately, and a tag identifying the origin of each line is inserted. For more information on using READ with the TAG option, see the READ subcommand.

2. The SET CTLCHAR subcommand accepts the color and extended highlighting operands regardless of whether or not the device has the ability to use those attributes. However, the action taken depends upon the device. For example HIGH and NOHIGH are ignored on a 3279 display (unless the color was DEFAULT), color is ignored on a 3278 display, and color and extended highlighting are ignored on 3277 display. QUERY/EXTRACT return all current settings, even those that may be ignored on any given terminal.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
695E CANNOT DEFINE MORE THAN 64 CTLCHARS,RC=4
```

Return Codes:

0	Normal
4	Too many control characters defined
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

The following subcommands are issued:

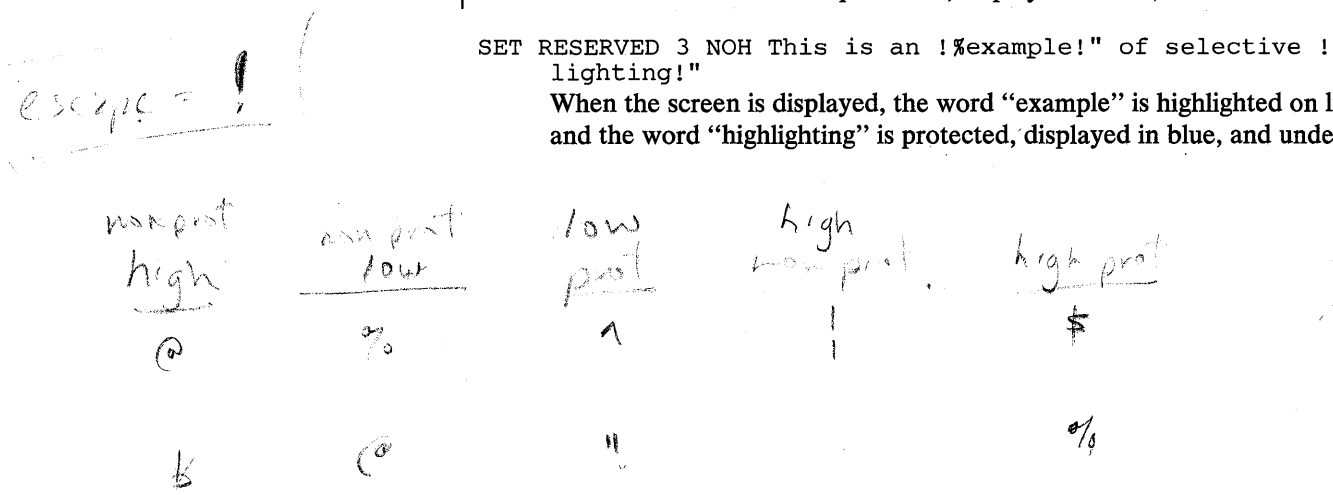
`SET CTLCHAR ! ESCAPE`
Defines ! as a control character identifier. When ! appears in the text, the next character is interpreted as a control character.

`SET CTLCHAR % PROTECT HIGH`
When % appears in the text, preceded by the control character identifier (!), the data that follows it is displayed protected and highlighted.

`SET CTLCHAR " PROTECT NOHIGH`
When " appears in the text, preceded by the control character identifier (!), the data that follows it is displayed protected and not highlighted.

`SET CTLCHAR ? PROTECT BLUE UNDERLINE`
When ? appears in the text, preceded by the control character identifier (!), the data that follows it is protected, displayed in blue, and underlined.

```
SET RESERVED 3 NOH This is an !%example!" of selective !?high-
    lighting!"
```
When the screen is displayed, the word "example" is highlighted on line 3 and the word "highlighting" is protected, displayed in blue, and underlined.



SET CURLINE

Use the CURLINE option to define the position of the current line on the screen.

The format of the SET CURLINE subcommand is:

[SET]	CURLine ON M[+n|-n] | [±|-]n

where:

ON
: displays the current line on the screen.

M[+n|-n]
: specifies the line in which the current line is displayed. M stands for "middle of the screen" (rounded up for odd sized screens). M may be combined with a constant positive or negative integer to mean n lines below the middle of the screen (M+n), or n lines above the middle of the screen (M-n). For example, CURLINE ON M means the "middle of the screen," and CURLINE ON M+3 means " three lines below the middle of the screen."

[±|-]n
: specifies the line in which the current line is displayed. n or +n (+ is implicit) specifies that the current line is displayed n lines from the top of the screen; -n specifies that the current line is displayed n lines from the bottom of the screen. For example, CURLINE ON -3 means that the current line is three lines from the bottom of the screen.

Initial Setting:

```
CURLINE  ON  M (middle of the screen)
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
526E OPTION 'CURLINE' VALID IN DISPLAY MODE ONLY,RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
3 Operand is valid only for display terminal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET DISPLAY

Use the DISPLAY option to specify which selection levels of lines (as defined by SET SELECT) are displayed. For an illustration of how SET DISPLAY can be used effectively in combination with the other selective line editing subcommands (SET SELECT, SET SCOPE, and SET SHADOW) see SET SELECT in this publication.

The format of the SET DISPLAY subcommand is:

[SET]	DISPlay n1 [n2|*]

where:

n1
: is a positive whole number that represents a selection level of lines that you wish to display. If n1 is specified alone, only the lines having a selection level of n1 are included in the display.

n2|*
: is a positive whole number that represents a selection level of lines. When both n1 and n2 are specified, all lines with selection levels between n1 and n2 inclusive are included in the display. The value of n2 must be equal to or greater than that of n1. If n2 is specified as an asterisk (*), all lines with selection levels starting with n1 and greater are displayed.

Initial Setting:

DISPLAY 0 0

Usage Notes:

1. To display the entire file, use SET DISPLAY 0 *. If you use "SET DISPLAY 0 *," you cannot subsequently use the X prefix macro to exclude lines. You must first reset the DISPLAY level to something other than asterisk (*).

2. For examples of this and other selective line editing subcommands, you can examine the following IBM-supplied macros: ALL (whose fileid is ALL XEDIT), which restricts editing to a particular set of lines, and the X prefix macro (whose fileid is PREFIXX XEDIT), which excludes lines from the display. See also "Appendix B."

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
600E FIRST SELECTION LEVEL (nn) CANNOT BE
     GREATER THAN SECOND SELECTION LEVEL (nn),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET ENTER

Use the ENTER option to define a meaning for the hardware ENTER key or to remove the meaning associated with the ENTER key.

The format of the SET ENTER subcommand is:

[SET]	ENTer	BEFORE	string
		AFTER	NULLKEY
		ONLY	COPYKEY
		IGNORE	TABKEY

where:

BEFORE
: specifies that the key definition is executed before the contents of the command line. BEFORE is the default for SET ENTER, unless the string begins with a "?" or "=." For these two strings, ONLY is the default.

AFTER
: specifies that the key definition is executed after the contents of the command line.

ONLY
: specifies that only the key definition is executed, thereby ignoring the command line.

IGNORE
: specifies that the key definition is ignored when something is entered on the command line, thereby only executing the command line.

string
: is any XEDIT subcommand or macro (including CP, CMS, or EXEC), which is executed when the ENTER key is pressed. If string is null, the ENTER key will be undefined.

NULLKEY
: When the ENTER key is pressed, blank characters are changed to null characters on the line which contains the cursor.

TABKEY
: When the ENTER key is pressed, the cursor is moved into the next tab column, as defined by the SET TABS subcommand.

COPYKEY
: When the ENTER key is pressed, the exact content of the current physical screen is copied into the printer spool.

Initial Setting:

```
ENTER IGNORE COMMAND CURSOR CMDLINE 1 PRIORITY 30
```

Usage Notes:

1. When you press the ENTER key set to TABKEY, COPYKEY, or NULLKEY, no screen changes are processed, including the command line, and the keywords BEFORE, AFTER, ONLY, and IGNORE have no effect. A PA/PF key would have to be used to process the command line and/or to change the ENTER key definition.

2. ONLY as part of the ENTER key setting should be used with extreme caution, since the command line will not be processed. A PA/PF key would have to be used to process the command line and/or to change the ENTER key definition.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Example:

Setting the priority to 5 as shown below will prevent the cursor from moving to the command line if you are in the file area when the ENTER key is pressed.

```
====> ENTER IGNORE COMMAND CURSOR CMDLINE 1 PRIORITY 5
```

SET ESCAPE

Use the ESCAPE option on a typewriter terminal to allow you to enter a subcommand when you are in input mode, without leaving input mode.

The format of the SET ESCAPE subcommand is:

[SET]	ESCape ON [char] OFF

where:

ON
: turns on the use of an escape character.

char
: specifies a character to be used.

OFF
: turns off the use of an escape character.

Initial Setting:

ESCAPE ON (typewriter terminal)
ESCAPE OFF (display terminal)

A default escape character is assigned according to filetype; see "Appendix A."

Usage Notes:

1. The escape character must appear in column 1. It identifies the line being entered as a subcommand.
2. The default escape character can be displayed by QUERY ESCAPE.
3. This subcommand has no meaning on a display terminal.
4. The escape character may be specified in hexadecimal if SET HEX ON is in effect.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET FILLER

Use the FILLER option to define a character to be used by the editor when a line is expanded, that is, when tab characters are removed and replaced by an appropriate number of filler characters (see the EXPAND subcommand.) The default filler character is a blank.

The format of the SET FILLER subcommand is:

[SET]	FILler [char]

Initial Setting:

The "blank" character is defined as the filler.

Usage Note:

The filler character may be specified in hexadecimal if SET HEX ON is in effect.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET FMODE

Use the FMODE option to change the filemode of the file being edited.

The format of the SET FMODE subcommand is:

[SET]	FMode fm

where:

fm
: is the new filemode. You can specify a filemode letter (A-Z) or a filemode letter and number (0-6). If you specify only a filemode letter, the existing filemode number is used.

Usage Notes:

1. The specified filemode is used the next time a FILE or SAVE is issued. If the file being edited had been written to disk before, that copy of the file remains unchanged.

2. If the disk specified by filemode already contains a file with the same filename and filetype and you issue FILE/SAVE, the editor displays an error message.

3. If the filemode specified is that of a read-only disk, and you issue FILE/SAVE, the editor displays an error message.

Error Messages:

```
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
555E FILE 'fn ft fm' ALREADY IN STORAGE,RC=4
```

Return Codes:

0 Normal
4 File already in storage
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
24 Invalid filemode
36 Corresponding disk not accessed

SET FNAME

Use the FNAME option to change the filename of the file being edited.

The format of the SET FNAME subcommand is:

[SET]	FName fn

where:

`fn`
is the new filename; it can be from one to eight characters long.

Usage Notes:

1. The specified filename is used the next time a FILE or SAVE is issued. If the file being edited had been written to disk before, that copy of the file remains unchanged.

2. If a file already exists with the specified filename and the same filetype and filemode and you issue FILE/SAVE, the editor displays an error message.

Error Messages:

```
062E INVALID CHARACTER IN FILEID 'fn ft fm',RC=20
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
555E FILE 'fn ft fm' ALREADY IN STORAGE,RC=4
```

Return Codes:

0 Normal
4 File already in storage
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
20 Invalid character in the string proposed as filename

SET FTYPE

Use the FTYPE option to change the filetype of the file being edited.

The format of the SET FTYPE subcommand is:

[SET]	FType ft

where:

`ft`
is the new filetype; it can be from one to eight characters long.

Usage Note:

1. The specified filetype is used the next time a FILE or SAVE is issued. If the file being edited had been written to disk before, that copy of the file remains unchanged.

2. If a file already exists with the specified filetype and the same filename and filemode and you issue FILE/SAVE, the editor displays an error message.

Error Messages:

```
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
555E FILE 'fn ft fm' ALREADY IN STORAGE,RC=4
```

Return Codes:

0 Normal
4 File already in storage
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
20 Invalid character in the string proposed as filetype

SET FULLread

Use the FULLREAD option to allow recognition by XEDIT of 3270 null characters in the middle of screen lines.

The format of the SET FULLREAD subcommand is:

[SET]	FULLread ON|OFF

where:

ON
: in combination with SET NULLS ON, enables XEDIT to recognize nulls in the middle of lines, allowing you to enter tabular or pictorial data without worrying about it being "crushed to the left" while NULLS ON allows you to use insert mode.

OFF
: inhibits transmission of nulls from the terminal to XEDIT. The SET NULLS subcommand can be used in this situation to control the relationship between nulls and blanks in screen data.

Initial Setting:

```
FULLREAD OFF
```

Usage Notes:

1. When FULLREAD ON is issued, nulls at the end of screen lines that are part of a logical line that occupies more than one physical screen line are dropped. This allows you to delete characters in a screen line and still have the line reconstructed flush together even though multi-line 327X lines do not "wrap" when the character delete key (or the insert mode key) is used.

2. FULLREAD ON increases communication to the CPU, which generally results in increased response time for remote terminals.

3. Setting FULLREAD ON will prevent you from losing any screen changes when you press a PA key and a message is displayed on a cleared screen.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S), RC=5
614E SCREEN MODIFICATIONS LOST.
     'SET FULLREAD ON' TO USE PAKEYS SAFELY.
```

Return Codes:

0 Normal
5 Invalid or missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Example::

If you enter the following line with NULLS ON and FULLREAD OFF, using the (--->) key to move the cursor between the columns of data:

```
Vermont      Maine      California      Georgia
```

the data will be "crushed" to the left as follows when you press the ENTER key. Nulls are not recognized in the middle of screen lines when NULLS ON and FULLREAD OFF are both set.

```
VermontMaineCaliforniaGeorgia
```

However, entering the same line with NULLS ON and FULLREAD ON using the (--->) key between the columns of data results in the nulls being handled as blanks as follows:

```
Vermont      Maine      California      Georgia
```

SET HEX

Use the HEX option to allow subcommand string operands and targets to be specified in hexadecimal notation. The editor searches for their EBCDIC equivalent.

The format of the SET HEX subcommand is:

[SET]	HEX ON OFF

where:

ON
: allows subcommand string operands and targets to be specified in hexadecimal notation.

  For example:

```
LOCATE /X'C1C2C3'/
```

  is the same as

```
LOCATE /ABC/
```

OFF
: turns off the ability to specify string operands and targets in hexadecimal notation.

Initial Setting:

```
HEX  OFF
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET IMAGE

Use the IMAGE option to determine the way the editor handles tab characters (X'05') and backspace characters (X'16') when a line is entered (from a terminal or the console stack).

The format of the SET IMAGE subcommand is:

[SET]	IMage ON OFF Canon

where:

ON
: specifies that an input line is reconstructed into an exact typewriter-like image.

  Tab characters are expanded with blank (or filler) characters, according to the current SET TABS settings.

  Overstrikes are interpreted as corrections, the backspace acting like a character delete and each column being occupied by the last character typed in. For example:

```
SET  TABS  2  5  10  etc.

INPUT LINE:  XB_TYBZ

B represents a backspace character.
T represents a tab character.

AFTER PROCESSING:  b_bbZ

b represents a blank
```

OFF
: specifies that tab and backspace characters are to be left as they are entered.

Canon
: specifies that tabs are left as they are entered, that is, tabs are not expanded to blank (or filler) characters.

  Backspace characters may be used to produce compound characters, such as underscored words.

Before a line containing backspace characters is inserted in the file, the characters are rearranged according to canonical order, that is, in collating sequence separated by backspaces. For example,

```
INPUT LINE:  XYZBBB_ _ _

B represents a backspace character

AFTER PROCESSING:  _BX_BY_BZ
```

This process simplifies searches through the file for a string, because you don't have to know the exact order in which the characters were entered.

Initial Setting:

Based on filetype. See "Appendix A."

Usage Notes:

The following subcommands are affected by the IMAGE setting:

- ADD (and A and I prefix subcommands)
- COMPRESS
- EXPAND
- FIND, FINDUP, NFIND, NFINDUP
- INPUT
- OVERLAY
- REPLACE
- All targets
- Typing over a line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET IMPCMSCP

Use the IMPCMSCP option to control whether subcommands that are not recognized by XEDIT are transmitted implicitly to CMS and later to CP (if necessary) for execution.

The format of the SET IMPCMSCP subcommand is:

[SET]	IMPcmscp ON OFF

where:

ON
: specifies that subcommands not recognized by the editor are sent to CMS and later (if needed) to CP for execution; that is, subcommands unknown to XEDIT are considered to be CMS (or CP) commands.

OFF
: specifies that unrecognized subcommands are not sent to CMS and CP.

Initial Setting:

```
IMPCMSCP  ON
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET LASTLORC

Use the LASTLORC (Last Locate or Change) option within a macro to specify the contents of the LASTLORC buffer.

The format of the SET LASTLORC subcommand is:

[SET]	LASTLorc line

where:

`line`
specifies what you want saved in the LASTLORC buffer. If you omit line, the LASTLORC buffer is set to nulls.

Initial Setting:

The initial setting of LASTLORC is a null string.

Notes for Macro Writers:

LASTLORC does not have to be set explicitly. It is normally automatically updated with the last user subcommand when a LOCATE, CLOCATE, CHANGE, or any subcommand in the FIND family is executed.

LASTLORC provides a memory capability which can be used by a macro explicitly. For example, SCHANGE uses LASTLORC so that a user can repeat the last CHANGE or CLOCATE without having to re-enter the data. Likewise a macro that issues a FIND or LOCATE might use this so that the user need not retype a command when they just want to continue a search.

Return Codes:

0 Normal
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET LINEND

Use the LINEND option to determine whether or not the editor is to recognize a pound sign (#) or other character as a line end character.

The format of the SET LINEND subcommand is:

[SET]	LINENd ON [char] OFF

where:

ON
: allows you to enter several adjacent subcommands, separated by the default character (a pound sign), or a specified character.

char
: is the special character to be used as a line end character. The default line end character is a pound sign (#).

OFF
: specifies that the editor is not to recognize a line end character.

Initial Setting:

```
LINEND  ON  #
```

Usage Note:

The line end character may be specified in hexadecimal if SET HEX ON is in effect.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

```
NEXT 1#change /A/B/#TOP
```

executes as:

```
NEXT 1
change /A/B/
TOP
```

SET LRECL

Use the LRECL option to define a new logical record length, which is used when the file is written to disk.

The format of the SET LRECL subcommand is:

[SET]	LRecl n *

where:

n
: is the logical record length. For a file with a fixed record format (F), n is the length of each record. For a file with a variable record format (V), n is the maximum record length. If you specify an asterisk (*), the logical record length is set to the WIDTH as defined in the XEDIT (or LOAD) command.

Initial Setting:

Based on filetype. See "Appendix A." (page A-1)

Usage Notes:

1. The value (n) specified must be less than or equal to the value specified in the WIDTH operand of the XEDIT or LOAD subcommand (in the profile). (WIDTH is the amount of virtual storage used for any file line, regardless of its format on disk.)

2. If the new logical record length is smaller than the previous one, data may be lost when the file is written to disk. A smaller logical record length may also create new values for zone settings, the column pointer, and the truncation column. The following relationships should be verified:

   ```
   ZONE1 ≤ COLUMN POINTER ≤ ZONE2 ≤ TRUNC ≤ LRECL ≤ WIDTH
   ```

   The column pointer can also be positioned at TOL (ZONE1 - 1) and at EOL (ZONE2 + 1).

3. Refer to the LOAD subcommand for more details on the initial setting of LRECL during profile execution.

Error Messages:

```
516E LRECL TOO LARGE FOR V-FORMAT FILE.,RC=4
519E LRECL MUST BE LOWER THAN WIDTH (nn).,RC=5
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0	Normal
4	Lrecl must be lower than 65535 for recfm V
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET MACRO

Use the MACRO option to control the order in which the editor searches for subcommands and macros.

The format of the SET MACRO subcommand is:

SET	MACRO ON OFF

where:

ON
: specifies that the editor is to look for macros before it looks for subcommands.

OFF
: specifies that the editor is to look for subcommands before it looks for macros.

Initial Setting:

MACRO OFF

Usage Notes:

1. This SET option can resolve an ambiguous situation, when a macro and a subcommand have the same name. (See also SET SYNONYM.)

2. The subcommand name SET is required with this option (to avoid conflict with the MACRO subcommand).

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET MASK

Whenever a new line is inserted in a file (whether by the ADD subcommand, the A or I prefix subcommand, the INPUT subcommand, or the REPLACE subcommand), it is pre-filled with the contents of a mask. Initially, the mask contains all blanks. You can use the MASK option to change the contents of the mask.

The format of the SET MASK subcommand is:

[SET]	MASK Define Immed [text] Modify

where:

`Define`
displays the scale in the command line to help you define a new mask. You can type the new mask over the scale. The size of the mask is limited by the width of the screen. (If you do not type a new mask over the scale, the scale becomes the new mask.)

`Immed [text]`
replaces immediately the current mask by the specified text. If no text is specified, it replaces the current mask with a blank line.

`Modify`
displays the current mask in the command line. You can *type over the mask* to redefine it. (The scale does not appear to assist you in defining the mask, as it does with the DEFINE operand.)

Initial Setting:

The initial setting of the mask is a blank line.

Usage Notes:

1. You can use the QUERY MASK subcommand to display the current mask in the message line, but you cannot change it.

2. When using SET MASK DEFINE or SET MASK MODIFY to reset the mask to a blank line, you can press the spacebar once and then press the ERASE EOF key. Pressing only the ERASE EOF key does not clear the mask. (This prevents you from clearing the mask if you accidentally press ERASE EOF).

Note for Macro Writers:

EXTRACT/MASK/ subcommand returns the current mask.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0	Normal
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

A mask is analogous to a pre-printed form that has the same information on every line, and you type in the variable information.

Figure 3-13 is an example of using SET MASK to define the "comments" area in a PLI program.

1. Enter the following subcommand:

```
====> SET MASK DEFINE
```

2. The scale appears in the command line:

```
====> ....+....1....+....2....+....3....+....4....+....5....+....6....+....7....
+....8....+....9....+...10....+...11....+...12....+...13... X E D I T  1 FILE
```

3. Type over the scale to define the mask, deleting any scale characters.

```
====>                                                  /*                    */
                                                                  X E D I T  1 FILE
```

4. If the INPUT subcommand is entered, each line in the input zone contains the mask:

```
 PROGRAM  PLI       A1  F 80  TRUNC=72 SIZE=12 LINE=0 COL=2 ALT=0
INPUT MODE:




* * * TOP OF FILE * * *
.|..+....1....+....2....+....3....+....4....+....5....+....6....+....7.>..+....
                                        /*                              */
                                        /*                              */
                                        /*                              */
                                        /*                              */
                                        /*                              */
                                        /*                              */
                                        /*                              */
                                        /*                              */
                                        /*                              */
====> * * * INPUT ZONE * * *
                                                        INPUT-MODE 1 FILE
```

Figure 3-13. Using the SET MASK Subcommand

SET MSGLINE

Use the MSGLINE option to define the location of the message line on the screen, and the maximum number of lines that a message may occupy. It may also be used to determine whether or not a blank line is normally displayed for the message line.

The format of the SET MSGLINE subcommand is:

SET	MSGLine ON M[+n|-n] | [+|-]n [p|1] [Overlay] OFF

where:

ON
: allows you to receive messages at the screen location defined.

M[+n|-n]
: stands for the middle of the screen (rounded up for odd-sized screens). M can be combined with a constant positive or negative integer to mean n lines below the middle of the screen (M+n) or n lines above the middle of the screen (M-n).

[+|-]n
: indicates that the MSGLINE is located n lines from the top of the screen (+ is implied/specified) or from the bottom of the screen (-n).

p
: is the maximum number of lines which can be used to display messages. The number of lines used to display messages will not exceed the number of lines in the actual messages. If the messages do not fit on p lines, messages are displayed on a cleared screen.

Overlay
: indicates that you do not want a blank line on the screen for messages. If OVERLAY is specified, no message line is displayed unless a message is issued. When OVERLAY is specified, reserved lines (including the scale, tabline, etc.) and file lines are displayed wherever the message line was defined until a message is issued. If OVERLAY is not specified, a blank message line is displayed wherever the message line was defined. If the message line is defined as the same line as the command line, the command line overlays the blank MSGLINE so that a command line is available.

OFF
: turns off the message line. Every XEDIT message is passed to CMS, and the screen is cleared.

Initial Setting:

```
SET MSGLINE ON 2 2
```

Usage Notes:

1. If multiple messages that do not fit on the message line(s) need to be displayed, they are passed to CMS, the screen is cleared, and the messages are displayed. Press the CLEAR key to re-display the file.

2. The command line and MSGLINE may be the same line. If the messages overlay the command line you can press the CLEAR key (or any key that does not produce a message) to restore the command line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER, RC=5
526E OPTION 'MSGLINE' VALID IN DISPLAY
     MODE ONLY, RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes

0 Normal
3 Subcommand valid only for display terminal
5 Invalid or missing operand(s)
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET MSGMODE

Use the MSGMODE option to control the message display.

The format of the SET MSGMODE subcommand is:

[SET]	MSGMode ON [Short|Long] OFF

where:

ON
: displays all messages at the terminal.

Long
: displays all messages in their full length.

Short
: Information (I) and warning (W) messages are not displayed. Error (E) messages are displayed as a NOT (¬) symbol. All other messages are displayed in their full length.

OFF
: No messages or data is displayed.

Initial Setting:

MSGMODE ON LONG (unless the NOMSG option was specified on the XEDIT command).

Usage Notes:

1. When MSGMODE is set to OFF, messages are not displayed but are still generated internally (in long or short form, according to the setting). However, you can display the last message generated by using the following sequence:

   ```
   SET MSGMODE ON
   QUERY LASTMSG
   ```

   In a macro, EXTRACT/LASTMSG/ can be used to get the last message generated.

2. To enter XEDIT with the initial setting of MSGMODE OFF use the NOMSG option on the XEDIT or LOAD subcommand. Please refer to the XEDIT command in this publication for an explanation of the NOMSG option.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET NONDISP

Use the NONDISP option to define a character to be used in place of non-displayable characters.

The format of the SET NONDISP subcommand is:

[SET]	NONDisp [char]

where:

char
: specifies a character to be used. If not specified, a blank will be used.

Initial Setting:

NONDISP "

Usage Note:

The non-displayable character may be specified in hexadecimal if SET HEX ON is in effect.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET NULLS

Use the NULLS option to specify whether trailing blanks in each line are written to the screen as blanks (X'40') or nulls (X'00').

The format of the SET NULLS subcommand is:

[SET]	NULls ON OFF

where:

ON
: specifies that all trailing blanks are to be replaced with nulls. This allows you to use the insert key on the IBM 3270 keyboard to insert characters in a line.

OFF
: specifies that trailing blanks are not to be replaced with nulls. The insert key cannot be used to insert characters in a line.

Initial Setting:

```
NULLS  OFF
```

Usage Notes:

1. You can use any key defined as "NULLKEY" instead of issuing SET NULLS ON if you wish to use the insert key for only one line. The "NULLKEY" function sets nulls on in the line that contains the cursor. If you move the cursor to another line and wish to use insert mode, you must press the key defined as "NULLKEY" again. "NULLKEY" is initially assigned by the editor to the PA2 key.

2. If either the WIDTH option on the XEDIT command or a SET VERIFY subcommand are set to a value less than the screen width, you can use the insert key to insert characters with SET NULLS OFF.

3. See also SET FULLREAD.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET NUMBER

Use the NUMBER option to specify whether or not file line numbers are to be displayed in the prefix area.

The format of the SET NUMBER subcommand is:

[SET]	NUMber ON OFF

where:

ON
: causes a five-digit line number to be displayed in the prefix area of the lines. The line numbers are sequential and are recomputed when lines are added or deleted.

OFF
: causes five equal signs (=====) to be displayed in the prefix area of each line, unless the prefix area has been set to NULLS. (Refer to SET PREFIX in this publication.)

Initial Setting:

```
NUMBER  OFF
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

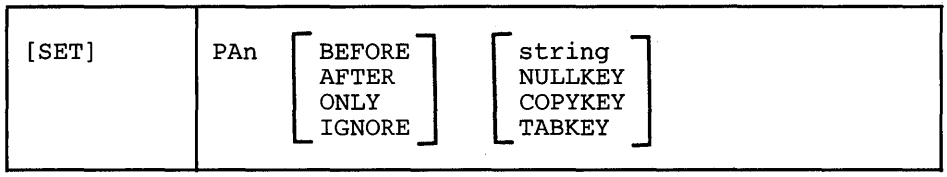
Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET PAn

Use the PAn option to define a meaning for a specified hardware attention (PA) key or to remove the meaning associated with the specified PA key.

The format of the SET PAn subcommand is:



where:

n
: specifies a PA key number (1,2, or 3). If SET PAn is issued (without an additional operand), the meaning associated with that PA key is removed.

BEFORE
: specifies that the key definition is executed before the contents of the command line. BEFORE is the default for all the keys, unless the string begins with a "?" or "=". For these two strings, ONLY is the default.

AFTER
: specifies that the key definition is executed after the contents of the command line.

ONLY
: specifies that only the key definition is executed, thereby ignoring the command line.

IGNORE
: specifies that the key definition is ignored when something is entered on the command line, thereby only executing the command line.

string
: is any XEDIT subcommand or macro (including CP, CMS, or EXEC), which is executed when the PA key is pressed. If string is null, the PA key will be undefined.

NULLKEY
: When the corresponding PA key is pressed, blank characters are changed to null characters on the line which contains the cursor. This is the initial setting for the PA2 key.

TABKEY
: When the corresponding PA key is pressed, the cursor is moved into the next tab column, as defined by the SET TABS subcommand.

COPYKEY
: When the corresponding PA key is pressed, the exact content of the current physical screen is copied into the printer spool.

Initial Setting:

```
SET PA1   BEFORE COMMAND CP
SET PA2   BEFORE NULLKEY
SET PA3   ONLY ?
```

Usage Notes:

1. You can assign a sequence of subcommands to a single PA key by: setting off the LINEND character; setting the PA key to the subcommands separated by LINEND characters; then setting the LINEND character back on before using the PA key.

   For example:

   ```
   SET LINEND OFF
   SET PA2 NEXT#C/A/B
   SET LINEND ON #
   ```

2. If a PA key set to TABKEY is pressed and there are no tab columns available on the screen, the position of the cursor remains unchanged.

3. PA keys may be used in input mode. (See the "Usage Notes" section of the INPUT subcommand.)

4. When you use a PA key set to COPYKEY, you should close the printer at the end of the editing session.

5. When you press a PA key set to TABKEY, COPYKEY, or NULLKEY, no screen changes are processed including the command line and the keywords, BEFORE, AFTER, ONLY, and IGNORE, have no effect.

6. Setting FULLREAD ON will prevent you from losing any screen changes when you press a PA key and a message is displayed on a cleared screen.

7. The setting of the CP break key (PA1 by default) overrides any later defined editor setting. To reset the defined CP break key to another function, you must assign another key (using the CP TERMINAL command) to perform the break key function.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
525E INVALID PFKEY/PAKEY NUMBER, RC=5
545E MISSING OPERAND(S),RC=5
614E SCREEN MODIFICATIONS LOST.
     'SET FULLREAD ON' TO USE PAKEYS SAFELY.
657E UNDEFINED PFKEY/PAKEY
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET PACK

Use the PACK option to specify whether or not the editor is to pack the file when it is written to disk.

The format of the SET PACK subcommand is:

[SET]	PACK ON OFF

where:

ON
specifies that the editor is to compress records in a file so that they can be stored in packed format when a FILE or SAVE subcommand is issued.

OFF
specifies that the editor is not to pack the file when it is written to disk.

Initial Setting:

According to the format of the file edited. PACK ON if the file is in packed format; PACK OFF if the file is not in packed format.

Usage Notes:

1. When an XEDIT command is issued for a file that is on disk in packed format, the editor automatically issues a SET PACK ON subcommand. Thus, when the file is filed or saved, it will be written back to disk in packed format.

2. The PACK option is compatible with the PACK option of the CMS COPYFILE command. A file can be packed (or unpacked) using either the editor SET PACK subcommand or the CMS COPYFILE command.

Responses:

The editor displays the record format in the IDLINE as:

FP (fixed packed)
or
VP (variable packed)

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET PENDING

Use the PENDING option to control the execution of a prefix macro and the status of the screen while the prefix macro is being executed. This option, designed to be issued from a macro, can be used to display a prefix subcommand or macro in the prefix area of the current line, or to indicate to the user that a prefix subcommand or macro that was entered is the beginning or end of a block. In both cases, the screen is placed in a pending status (described in the notes, below). SET PENDING can also be used to notify the user that a prefix macro was entered incorrectly.

The format of the SET PENDING subcommand is:

`[SET]`	`PENDing ON|BLOCK|ERROR string` `OFF`

where:

`ON string`
: displays "string", which can be any prefix subcommand or macro, in the prefix area of the current line and displays a pending notice in the status area (described in the notes, below). By default, the string in the prefix area is highlighted. This form of SET PENDING adds an entry to the "pending list" (list of pending prefix subcommands and macros), which is described in the notes, below.

`BLOCK string`
: displays "string", which is the block form of any prefix subcommand or macro (for example, DD is the block form of the D prefix subcommand) in the prefix area of the line in which it was entered and displays a pending notice in the status area (described in the notes, below). By default, the string in the prefix area is highlighted. This form of SET PENDING is used to notify the user that the beginning (or end) of a block was entered. The string would normally be the same as that entered by the user, as determined by the macro. This form of SET PENDING adds an entry to the "pending list," which is described in the notes, below.

`ERROR string`
: specifies that the string is to be displayed in the prefix area, prefixed by a question mark (?). By default, the string in the prefix area is highlighted. This indicates that an error occurred while a prefix macro (or subcommand) was executing, for example, if the macro was entered incorrectly. The string would normally be the incorrectly-entered prefix macro, as determined by the prefix macro, so that the user could correct the error.

  Because this entry in the pending list is deleted the next time the list is processed, pressing the ENTER key while "? string" is displayed resets the prefix area. (This prevents subsequent attempts by the user to execute an incorrect prefix subcommand or macro.) This form of SET PENDING does not cause a pending notice to be displayed.

`OFF`
: removes a pending prefix subcommand or macro from the prefix area of the current line (that is, removes this entry from the pending list), and resets the prefix area and the status area.

Notes for Macro Writers:

1. The "pending list" is a list of prefix subcommands and macros that have not yet been executed. Every time the editor reads the screen, the pending list is updated with any new prefix subcommands and macros, each of which causes an entry to be added to the list. Each entry is associated with a specific line in the file. The pending list is executed when it is updated. If a prefix macro returns a non-zero return code, execution of the pending list stops and all entries not executed remain pending, until the user presses a key.

   An entry is deleted from the pending list when it is executed or overtyped on the user's screen with a new prefix subcommand, prefix macro, or blanks. An entry can also be added by using "SET PENDING ON string" and deleted by issuing "SET PENDING OFF" or the RESET subcommand.

   A prefix macro can control its execution and the screen status by examining information in the pending list (by using EXTRACT /PENDING.../) and by examining the *argument string* that is automatically passed to a prefix macro when it is invoked. The argument string contains information pertinent to the prefix macro when it is called, for example, the file line of the prefix area in which it was entered. For a description of this argument string, see the *VM/SP System Product Editor User's Guide,* Chapter 7. The macro can then take appropriate action, which may include using some form of SET PENDING.

2. On display terminals, the pending status is indicated by the following notice in the status area:

   ```
   'value' pending...
   ```

   where "value" is the name of the pending prefix macro or subcommand that was entered in the prefix area. If multiple prefix subcommands or macros are pending, the first one (starting from the top of file) is displayed in the pending notice.

3. After all the prefix subcommands and macros in the pending list are processed, the current line is restored to what it was before processing. Therefore, a prefix macro does not normally need to be concerned with restoring the current line. However, a macro can issue "SET PENDING ON /" to specify which line is current when it is finished executing. (When multiple "/" prefix subcommands are entered, the last one executed sets the current line.)

4. When a macro or subcommand is first put in the pending list, it is checked (via the CMS STATE command) to see if it exists. If it does not exist, it is left pending. Creating the macro will not cause the pending macro to be automatically executed. You must reenter it into the prefix area for it to be executed.

5. When the pending list is executed it is scanned for SCALE, TABL, and / prefix subcommands after all the other prefix subcommand and macros have been executed. SCALE, TABL, and / are executed in the logical screen in which they were issued (not just on the screen in which the pending list was executed). Since they are executed after the rest of the pending list is processed, a prefix macro may specify them and they may be executed before the screen is re-displayed (this is particularly useful for setting the current line

from a prefix macro). When multiple SCALE, TABL, and / prefix subcommands are issued, only the last one issued is used. If the last TABL or SCALE is specified on a line that does not fall on the screen, then it is ignored.

6. For more information on the pending list and writing prefix macros, see the subcommands EXTRACT/QUERY PENDING, and SET/EXTRACT/QUERY PREFIX SYNONYM. For information on IBM-supplied prefix macros, see "Section 4: Prefix Subcommands and Macros." For tutorial information on writing prefix macros and examples of how to use SET PENDING in prefix macros, see the publication *VM/SP System Product Editor User's Guide,* Chapter 7.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

```
SET PENDING ON A
```

adds an entry to the pending list and displays A==== in the prefix area of the current line and the notice "'A' pending..." in the status area.

```
:3 SET PENDING OFF
```

removes the current line from the pending list, that is, makes line 3 the current line and resets the prefix area and the status area.

```
:10 SET PENDING ERROR XX20
```

makes line 10 the current line and displays ?XX20 in the prefix area. (XX20 is an invalid form of the X prefix macro.)

```
:100 SET PENDING BLOCK XX
```

makes line 100 the current line and displays "XX" in the prefix area (highlighted), and displays "'XX' pending..." in the status area.

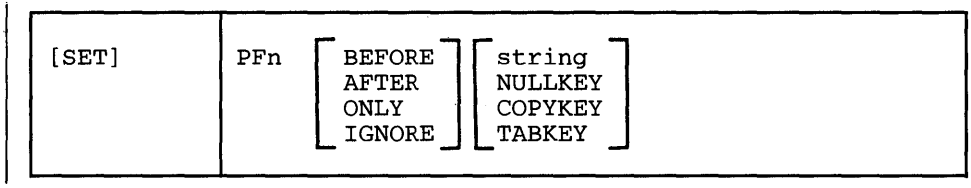
Assuming this was issued from a prefix macro note that :100 is an absolute line number target. It is used to make this line current for the SET PENDING subcommand, which operates on the current line. Because the current line is restored after the pending list is executed (see notes, above), the block form of the macro is displayed in the prefix area of the line in which it was entered (which is not necessarily the current line).

Therefore, if "XX" is entered on line 100 of the file, and line 100 is not the current line, :100 makes line 100 current for the SET PENDING subcommand. However, because the current line is restored after execution, the user sees "XX" displayed in line 100, where it was entered.

SET PFn

Use the PFn option to define a meaning for a specified hardware program function (PF) key or to remove the meaning, if any, associated with the specified PF key.

The format of the SET PFn subcommand is:



where:

n
: specifies a PF key number (n can be 1 through 24). If SET PFn is issued (without an additional operand), the meaning associated with that PF key is removed.

BEFORE
: specifies that the key definition is executed before the contents of the command line. Before is the default for all the keys, unless the string begins with a "?" or "=." For these two strings, "ONLY" is the default.

AFTER
: specifies that the key definition is executed after the contents of the command line.

ONLY
: specifies that only the key definition is executed, thereby ignoring the command line.

IGNORE
: specifies that the key definition is ignored when something is entered on the command line, thereby only executing the command line.

string
: is any XEDIT subcommand or macro (including CP, CMS, or EXEC), which is executed when the PF key is pressed. If string is null, the PF key will be undefined.

NULLKEY
: When the corresponding PF key is pressed, blank characters are changed to null characters on the line which contains the cursor.

TABKEY
: When the corresponding PF key is pressed, the cursor is moved into the next tab column, as defined by the SET TABS subcommand.

COPYKEY
: When the corresponding PF key is pressed, the exact content of the current physical screen is copied into the printer spool.

Initial Setting:

```
SET PF01 BEFORE HELP MENU
SET PF02 BEFORE SOS LINEADD
SET PF03 BEFORE QUIT
SET PF04 BEFORE TABKEY
SET PF05 BEFORE SCHANGE 6
SET PF06 ONLY   ?
SET PF07 BEFORE BACKWARD
SET PF08 BEFORE FORWARD
SET PF09 ONLY   =
SET PF10 BEFORE RGTLEFT
SET PF11 BEFORE SPLTJOIN
SET PF12 BEFORE CURSOR HOME
```

Note: These are the initial settings. On a terminal equipped with 24 PF keys, PF keys 13 through 24 have the same values as PF keys 1 through 12 as discussed here, except PF key 17 which is set to BEFORE SCHANGE 18.

Usage Notes:

1. You can assign a sequence of subcommands to a single PF key by: setting off the LINEND character; setting the PF key to the subcommands separated by LINEND characters; then setting the LINEND character back on before using the PF key.

   For example:

   ```
   SET LINEND OFF
   SET PF3 NEXT#C/A/B
   SET LINEND ON #
   ```

2. If a PF key set to TABKEY is pressed and there are no tab columns available on the screen, the position of the cursor remains unchanged.

3. To get the same effect as a CP SET PF DELAY, use:

   ```
   SET PFn CMSG...
   ```

4. PF keys may be used in input mode. (See the "Usage Notes" section of the INPUT subcommand.)

5. When you use a PF key set to COPYKEY, you should close the printer at the end of the editing session.

6. When you press a PF key set to "TABKEY," "COPYKEY," or "NULLKEY," no screen changes are processed including the command line and the keywords, "BEFORE," "AFTER," "ONLY," and "IGNORE," have no effect.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
525E INVALID PFKEY/PAKEY NUMBER,RC=5
545E MISSING OPERAND(S),RC=5
657E UNDEFINED PFKEY/PAKEY
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET POINT

Use the POINT option to define a symbolic name for the current line. More than one name can be defined for a line by issuing separate SET POINT subcommands. You can use these names to refer to the line in subsequent target operands of XEDIT subcommands.

The format of the SET POINT subcommand is:

[SET]	Point .symbol [OFF]

where:

`.symbol`
is a symbolic name for the current line. The name must begin with a period and be followed by from one to eight alphanumeric or special characters, for example, .AAA.

`OFF`
deletes the specified symbol, without moving the line pointer. The symbol to be deleted must be specified in front of this operand.

Usage Notes:

1. The POINT option makes it unnecessary for you to remember or to look up the line number of a line. A line can be referenced by its name at any time during the editing session. For example, if the following subcommand is issued:

   ```
   SET POINT .XAVIER
   ```

   the current line is assigned the specified name.

   The name can then be referenced at any time during the editing session. For example:

   ```
   MOVE 3 .XAVIER
   ```

   moves three lines, beginning with the current line, after the line named .XAVIER.

2. The line number of a line can change during an editing session; for example, adding lines before a particular line increments its line number. The symbolic name, however, stays with a line for the entire editing session.

3. The .xxxx prefix subcommand can also be used to assign a symbolic name to a line. In this case, the symbolic name is limited to four characters.

4. You can use the QUERY POINT subcommand to display the symbolic name(s) of the current line. You can use QUERY POINT * to display all symbolic names and their line numbers as they have been defined.

Notes for Macro Writers:

The EXTRACT/POINT/ subcommand returns the symbolic name(s) and line number of the current line and EXTRACT/POINT */ returns the symbolic names and their line numbers in the file.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
539E NAMED LINE NOT FOUND.,RC=2
540E NAME ALREADY DEFINED ON LINE 'nn'.,RC=1
541E INVALID NAME,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
1 Duplicate name defined
2 Name does not exist for OFF function
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET PREFIX

Use the PREFIX option to control the display of the prefix area, or to define a synonym for a prefix subcommand.

The format of the SET PREFIX subcommand is:

[SET]	PREfix ON [Left|Right] OFF Nulls [Left|Right]
	PREfix Synonym newname oldname

where:

ON
: displays a five-character prefix area (=====) for each logical line on the screen. The prefix area can be displayed on either the left (LEFT operand) or right (RIGHT operand) side of the screen. Prefix subcommands and macros can then be entered in the prefix area.

OFF
: removes the prefix area from the screen.

Nulls
: displays nulls in the prefix area enabling the use of the insert key.

Synonym
: is the keyword operand that indicates a synonym is to be defined for a prefix subcommand or macro.

newname
: is a synonym to be assigned to a prefix subcommand or macro. The new name can be up to five alphabetic or special characters.

oldname
: is the name of a prefix subcommand or macro for which you are defining a synonym. The oldname can be up to eight characters.

Initial Setting:

```
PREFIX  ON  LEFT
```

There are seven prefix synonyms defined.

```
 >        PRFSHIFT
>>        PRFSHIFT
 <        PRFSHIFT
<<        PRFSHIFT
 X        PREFIXX
XX        PREFIXX
 S        PRFSHOW
```

Usage Note:

When using SET PREFIX NULLS with SET NUMBER ON, any leading zeros are translated to nulls.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
548E INVALID SYNONYM OPERAND : operand,RC=5
```

Return Codes:

0	Normal
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET RANGE

Use the RANGE option to define new limits for line pointer movement. In effect, this option defines a new top and bottom for the file. During the editing session, all subcommands (except for FILE and SAVE) operate only within the range.

The format of the SET RANGE subcommand is:

[SET]	RANge target1 target2

where:

target1
: is the top of the range.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

target2
: is the bottom of the range.

Initial Setting:

RANGE 1 n where n is equal to the size of the file.

Usage Notes:

1. After the range is defined, the TOP subcommand moves the line pointer to the line that precedes target1 (to allow insertion at the top of the range). Target1 becomes the equivalent of the first line in the file. Top of Range becomes the equivalent of the Top of File line. The BOTTOM subcommand moves the line pointer to target2. Target2 becomes the equivalent of the last line in the file. End of Range becomes the equivalent of the End of File line.

2. If the SET RANGE option is entered while the line pointer is outside the limits being defined, the current line becomes the first line of the new range.

3. FILE and SAVE subcommands write the *entire* file on disk. No other subcommands have access to data outside the range.

4. The following subcommand resets the range to the physical top and bottom of the file:

   ```
   SET RANGE -* *
   ```

   In order to set a range outside the limits of the current range, you must specify target1 and target2 as absolute line numbers. An alternate method is to issue:

   ```
   SET RANGE :1 *
   ```

   (See Appendix B for information about SET RANGE and the SCOPE setting.)

5. SET RANGE cannot be issued when prefix subcommands or macros are pending and it cannot be issued from a prefix macro.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
528E INVALID RANGE : TARGET2 (LINE nn)
     PRECEDES TARGET1 (LINE nn).,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
588E PREFIX SUBCOMMAND WAITING ...,RC=8
698E TARGET STRING TOO LONG, UNABLE TO
     PARSE THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
2 Target not found
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
8 Prefix subcommand or macro waiting

SET RECFM

Use the RECFM option to define the record format for the file.

The format of the SET RECFM subcommand is:

[SET]	RECFm F V FP VP

where:

F
: specifies that the record format is fixed.

V
: specifies that the record format is variable.

FP
: specifies that the record format is fixed packed.

VP
: specifies that the record format is variable packed.

Initial Setting:

Based on the filetype. See "Appendix A."

Usage Note:

When the record format is FP or VP, a SET PACK ON is automatically executed.

Error Messages:

```
515E RECFM MUST BE F|V|FP|VP.,RC=5
516E LRECL TOO LARGE FOR V-FORMAT FILE.,RC=4
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
4 Lrecl must be lower that 65536 for recfm V
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET REMOTE

Use the REMOTE option to control the way XEDIT handles the display, in terms of data transmission.

The format of the SET REMOTE subcommand is:

[SET]	REMOte ON|OFF

where:

ON
: specifies that XEDIT is to compress the screen by removing nulls and combining data when five or more of the same characters occur consecutively in a data stream. This minimizes the amount of data transmitted and shortens the buffer, thus speeding transmission.

OFF
: specifies that XEDIT is not to compress the screen. Data will be transmitted with no minimization.

Initial Setting:

REMOTE OFF - for locally attached devices.

REMOTE ON - for remote displays.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET RESERVED

Use the RESERVED option to reserve a specified line on the screen, thereby preventing the editor from using that line. The line can be used for displaying blank or specified information with or without the following features:

- Color
- Extended highlighting
- Highlighting.

The RESERVED option can also be used to give a reserved line back to the editor. This option is designed to be issued from a macro.

The format of the SET RESERVED subcommand is:

[SET]	RESERved M[+n|-n] | [±|-]n [color] [exthi] High [text] Nohigh Off

where:

M[+n|-n]
: specifies the line which is to be the reserved line. M stands for "middle of the screen" (rounded up for odd sized screens). M may be combined with a constant positive or negative integer to mean n lines below the middle of the screen (M+n), or n lines above the middle of the screen (M-n). For example, RESERVED M means the "middle of the screen," and RESERVED M+3 means "three lines below the middle of the screen."

[±|-]n
: specifies the line which is to be the reserved line. n or +n (+ is implicit) specifies that the reserved line is displayed n lines from the top of the screen; -n specifies that the reserved line is displayed n lines from the bottom of the screen. For example, RESERVED -3 means that the reserved line is three lines from the bottom of the screen.

color
: color can be any one of the following:

```
Blue        Turquoise
Red         Yellow
Pink        White
Green       Default
```

If you omit color, the default is DEFAULT (default base color).

`exthi`
extended highlighting can be any one of the following:

```
BLInk
REVvideo  (reverse video)
Underline
NONe
```

If you omit exthi, the default is NONE (no extended highlighting).

`High`
indicates that the data in the reserved line is to be highlighted.

`Nohigh`
indicates that the data in the reserved line is not to be highlighted (normal intensity).

`text`
specifies the information that is to be displayed in the reserved line.

`Off`
indicates that a line reserved previously is to be returned for use by the editor.

Initial Setting:

No reserved lines are defined.

Usage Note:

The QUERY RESERVED subcommand may be used to display the line numbers of reserved lines.

Notes for Macro Writers:

1. The EXTRACT/RESERVED/ subcommand returns line numbers of reserved lines. The EXTRACT/RESERVED */ subcommand returns information about reserved lines.

2. Reserved lines are associated with the file being edited when they are defined. They are displayed only when that file is being displayed.

3. SET RESERVED +n and SET RESERVED -n are considered to be two separate lines, even when they point to the same line on the screen.

   For example, assume you have a 43-line screen and issue the subcommands SET RESERVED 21 and SET RESERVED -4. Two different lines are reserved on this screen: line 21 and line 40. However, if the screen size changes to a 24-line screen, both reserved lines will fall on the same line. In this case, the editor keeps both definitions but displays only the last one defined.

   When turning a reserved line off, you must specify the line the same way you defined it.

4. If you reduce the logical screen size (for example, by splitting the screen), only those reserved lines that fall within the smaller screen size are displayed. The definition of lines that do not fit on the screen are kept, even though they are not displayed.

5. A SET RESERVED subcommand issued for the first line of the command line will be ignored, unless SET CMDLINE OFF has been issued. This prevents you from accidentally losing the command line. A reserved line can be set on the second line of the command line if CMDLINE ON.

6. For information on defining various attributes for fields within a reserved line, see the SET CTLCHAR subcommand.

7. The SET RESERVED subcommand accepts the color and extended highlighting operands regardless of whether or not the device has the ability to use those attributes. However, the action taken depends upon the device. For example, HIGH and NOHIGH are ignored on a 3279 display (unless color was DEFAULT), color is ignored on a 3278 display, and color and extended highlighting are ignored on a 3277 display. QUERY/EXTRACT return all current settings, even those that may be ignored on any given terminal.

Response:

The information specified in the text operand, if any, appears on the specified reserved line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
526E OPTION 'RESERVED' VALID IN DISPLAY MODE ONLY.,RC=3
533E LINE 'nn' IS NOT RESERVED,RC=4
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
3 Operand is valid only for display terminal
4 Line is not reserved
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SCALE

Use the SCALE option to display a scale line under the current line (the default) or on a specified line, to assist you in editing.

The format of the SET SCALE subcommand is:

[SET]	SCALe ON [M[+n|-n] | [+|-]n] OFF

where:

ON
: displays the scale on the screen.

M[+n|-n]
: specifies the line in which the scale line is displayed. M stands for "middle of the screen" (rounded up for odd sized screens). M may be combined with a constant positive or negative integer to mean n lines below the middle of the screen (M+n), or n lines above the middle of the screen (M-n). For example, SCALE ON M means the "middle of the screen," and SCALE ON M+3 means "three lines below the middle of the screen."

[+|-]n
: specifies the line in which the scale line is displayed. n or +n (+ is implicit) specifies that the scale line is displayed n lines from the top of the screen; -n specifies that the scale line is displayed n lines from the bottom of the screen. For example, SCALE ON -3 displays the scale line three lines from the bottom of the screen.

OFF
: removes the scale from the screen.

Initial Setting:

SCALE ON M+1.

Usage Notes:

1. The scale looks like this:

```
<...+..|.1....+....2....+....3.>..+....4T...+....5....+....6....+....7...
.      .                        .        .
.      .                        .        .
.      .column pointer          .        .
.                               .        .truncation column
.left zone                      .right zone
```

2. If the current line occupies more than one screen line and the scale is on the line following the current line, the scale is not displayed for that line. The scale is re-displayed when the line pointer moves to a file line that occupies only one screen line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
526E OPTION 'SCALE' VALID IN DISPLAY MODE ONLY.,RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0	Normal
3	Operand is valid only for display terminal
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SCOPE

Use the SCOPE option to specify the set of lines on which the editor operates. The operand (ALL or DISPLAY) indicates if the collection includes all lines in the file or only the lines displayed. For an illustration of how SET SCOPE can be used effectively in combination with the other selective line editing subcommands (SET DISPLAY, SET SHADOW, and SET SELECT), see SET SELECT in this publication.

The format of the SET SCOPE is:

[SET]	SCOPE Display|All

where:

`Display`
indicates that the editor acts only on those lines currently in the display range as specified by SET DISPLAY. It performs as if the lines which are outside the display range are not part of the file.

`All`
indicates that the editor acts on the entire file.

Initial Setting:

```
SCOPE DISPLAY
```

Usage Notes:

1. Target searches are performed only on lines within the current scope. If SCOPE DISPLAY has been set, and the the target search only considers and looks at displayed lines. This is true for all types of targets: absolute line numbers, a relative displacement from the current line, a line name, a simple string expression, or a complex string expression. Line movement by use of targets is done as if lines outside the scope had been removed. For example, NEXT or +1 may go from line 20 to line 40 if lines 21 to 39 are outside the display range.

2. If SCOPE DISPLAY is set and the current line's selection level is not within the SET DISPLAY n1 n2 values, the editor forces the current line out of the display, causing the first line following it in the scope to be the new current line. This can occur if:

   a. You issue SET SELECT changing the current line's selection level

   b. You issue SET DISPLAY, changing lines that are displayed

   c. You issue SET SCOPE DISPLAY and the previous setting was SCOPE ALL.

3. If SCOPE ALL is set, the current line is always included in the display. Its selection level is not modified, but its display status is forced as long as it remains the current line.

4. While SCOPE ALL is set, the editor acts on the entire file, even that portion of the file that is not displayed. Therefore, a line which is not displayed may be changed by the editor.

5. For examples of this and other selective line editing subcommands, you can examine the following IBM-supplied macros: ALL (whose fileid is ALL XEDIT), which restricts editing to a particular set of lines, and the X prefix macro (whose fileid is PREFIXX XEDIT), which excludes lines from the display. See also "Appendix B."

6. SORT, SET RANGE, and ALL work outside the scope.

7. If SCOPE DISPLAY is set and the last line of the file is a shadow line, with the current line being the end of file line, entering input mode will cause the last line of the shadow line group to be displayed as the current line. In this case, a line that was outside the scope can be changed.

Error Messages

```
520E  INVALID OPERAND :  operand, RC=5
545E  MISSING OPERAND(S), RC=5
```

Return Codes

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SCREEN

Use the SCREEN option to divide the physical screen into a specified number of logical screens so that you may edit multiple files or multiple views of the same file. Each logical screen becomes, in effect, an independent terminal with its own file identification line, command line, and message line.

The format of the SET SCREEN subcommand is:

[SET]	SCReen n [Horizontal|Vertical] Size s1[s2[s3...[sn]]] Width w1[w2[w3...[wn]]] Define sl1 sw1 sh1 sv1 [sl2 sw2 sh2 sv2]...

where:

`n`
specifies the number of logical screens that the physical screen is to be divided into. If only n is specified, Horizontal is assumed.

`Horizontal`
specifies that the logical screens are arranged horizontally, that is, one on top of the other. n must be specified such that all horizontal screens are at least five lines long.

`Vertical`
specifies that the logical screens are arranged vertically, that is, next to each other, from left to right. n must be specified such that all vertical screens are at least 20 columns wide.

`Size s1[s2[s3...[sn]]]`
specifies that the screens are created horizontally, where "sn" is the number of lines in each logical screen. Any number of screens can be created, provided each is at least five lines long (that is, "sn" cannot be less than five).

`Width w1[w2[w3...[wn]]]`
specifies that the screens are created vertically, where "wn" is the number of columns in each screen. Any number of screens can be created, provided each is at least 20 columns wide (that is, "wn" cannot be less than 20).

`Define sl1 sw1 sh1 sv1 [sl2 sw2 sh2 sv2]...`
indicates that each screen is created according to the layout specified, where:

- "sln" is the number of lines in the logical screen.
- "swn" is the number of columns in the logical screen.
- "shn" is the line number of the upper left corner of the logical screen on the physical screen.
- "svn" is the column number of the upper left corner of the logical screen on the physical screen.

Any number of screens can be created, provided "sln" is not less than 5 and "swn" is not less than 20.

Initial Setting:

`SCREEN SIZE` *s1*, where s1 is the physical screen size.

Usage Notes:

1. When multiple files are being edited, the files are arranged in a "ring" in virtual storage (see the XEDIT subcommand for more information on the ring of files). If a SET SCREEN subcommand increases the number of logical screens, the additional screens are immediately filled with files selected from the ring of files.

   The file that immediately follows (in the ring) the last file that is displayed on the screen fills up the first empty logical screen, and so forth.

   Any files that were already displayed before the SET SCREEN subcommand was executed remain on the screen and keep their relative positions on the physical screen.

   However, if the number of logical screens is decreased due to a SET SCREEN subcommand, files will still be displayed, beginning with the file in the ring that issued the SET SCREEN subcommand, as long as logical screens are available. Those files for which logical screens are no longer available are removed from the display.

2. When vertical screens are defined (using SET SCREEN WIDTH or SET SCREEN DEFINE), the entire width of the physical screen must be accounted for, that is, the logical screens must occupy the full physical screen width.

   When defining vertical screens, remember to consider the width of the logical screens compared with the line length of the file(s) being edited. If the file line length exceeds the logical screen width, lines are displayed up to that width, that is, they do not "wrap," and changing the SET VERIFY setting will not cause them to wrap.

   On vertical screens, messages are broken up into as many lines as needed to display the entire message (up to the number of lines specified in the SET MSGLINE subcommand). If a message exceeds this number, it is displayed on a cleared screen.

   The status area is not displayed on vertical screens.

3. The SET SCREEN subcommand retains the CURLINE, SCALE, TABLINE, CMDLINE, MSGLINE, and RESERVED locations on the screens, provided that these settings fall within the new screen size. Otherwise, the default settings are used.

   When CMDLINE ON is in effect and vertical screens are defined, the command line is displayed on the bottom line of the screen since lines can not extend on multiple screen lines (see usage note 2). The editor remembers this change and returns the CMDLINE to ON if the screen definition is subsequently changed to a non-vertical screen(s).

4. For information on the order of processing, please refer to the publication, *VM/SP System Product Editor User's Guide*, Chapter 7.

Responses:

In horizontal screens, the status area of each logical screen contains the number of files being edited.

The screens are displayed as specified.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
526E OPTION 'SCREEN' VALID IN DISPLAY MODE ONLY.,RC=3
534E TOO MANY LOGICAL SCREENS DEFINED,RC=4
536E LOGICAL SCREENS EXCEED PHYSICAL SCREEN SIZE.,RC=1
537E EACH LOGICAL SCREEN MUST CONTAIN AT LEAST 5 LINES
     AND 20 COLUMNS,RC=4
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
566E LOGICAL SCREEN (sln, swn, shn, svn) IS OUTSIDE THE
     PHYSICAL SCREEN., RC=5
567E LOGICAL SCREENS (sl1, sw1, sh1, sv1) AND
     (sl2, sw2, sh2, sv2) OVERLAP EACH OTHER., RC=5
697E THE LOGICAL SCREENS MUST COVER THE FULL PHYSICAL
     SCREEN WIDTH., RC=5
```

Return Codes

0	Normal
1	The total number of lines or columns for the multiple logical screens exceeds the physical screen size
3	Operand is only valid for display terminal
4	Each logical screen must contain at least 5 lines and 20 columns
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

```
SET SCREEN 2
```

splits the screen horizontally into two logical screens.

```
SET SCREEN 2 V
```

splits the screen vertically into two logical screens.

```
SET SCREEN SIZE 14 10
```

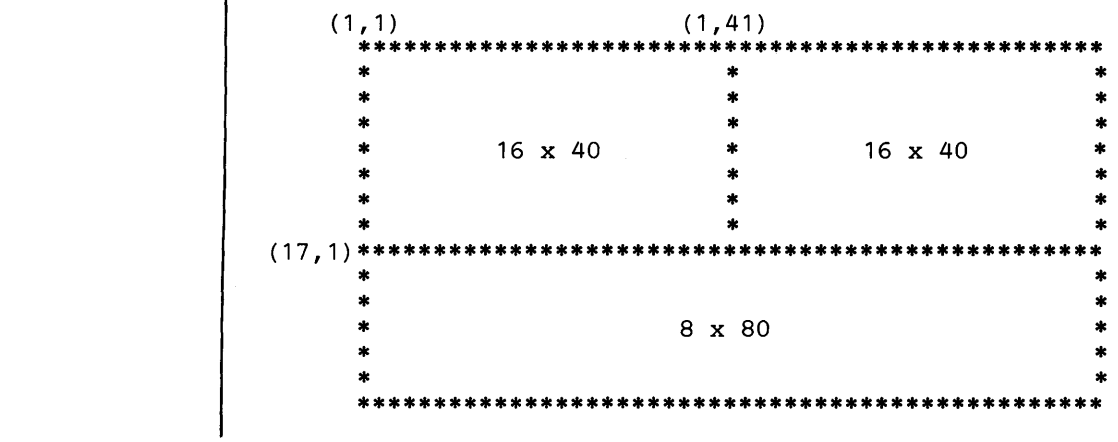
splits the screen horizontally into two logical screens, the first of which is 14 lines long and the second of which is 10 lines long.

```
SET SCREEN WIDTH 25 25 30
```

creates three logical vertical screens, 25, 25, and 30 columns wide, respectively.

```
SET SCR DEF 16 40 1 1 16 40 1 41 8 80 17 1
```

results in the following screen layout on a 24 x 80 physical screen.



SET SELECT

Use the SELECT option to designate a "selection level" for specified lines. A selection level is a positive value assigned to a line in a file. Various lines in a file may be grouped logically by assigning them the same selection level. This subcommand can be used effectively with the SET DISPLAY, SET SHADOW, and SET SCOPE subcommands.

The format of the SET SELECT subcommand is:

`[SET]`	`SELect [+|-] n  [target]`

where:

`n`
: is the selection level for the lines specified. "n" is a number and specified by itself without a + or - assigns an absolute "n" value as the selection level for the lines specified.

`+|-`
: adds(+) or subtracts(-) "n" from the current selection level(s) of the lines specified. For example, if you used "SET SELECT 8 3" the selection level "8" would be assigned to three lines in the file. To assign a level of "6" to the three lines you have just assigned a selection level of "8" to, use "SET SELECT -2 3" or "SET SELECT 6 3." Likewise, to assign a level of "10" to the three lines you have just assigned a selection level of "8" to you could either use "SET SELECT +2 3" or "SET SELECT 10 3."

`target`
: defines the number of lines to be assigned a selection level. The selection level is assigned from the current line up to, but not including, the specified target line. If you omit the target, only the current line's selection level is set.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editors User's Guide.*

Initial Setting:

`SELECT 0` (for the entire file)

Usage Notes:

1. Selective line editing can be used in a macro to control both the action of the editor and the screen display. It consists of four subcommands, SET SELECT, SET DISPLAY, SET SCOPE, and SET SHADOW, which work together in the following manner. You can use SET SELECT to assign a "selection level," or value, to one or more lines in a file. Lines can be logically grouped by assigning them the same selection level. SET DISPLAY may be used in conjunction with SET SELECT to display those lines which have the same selection level. SET SCOPE defines the set of lines that the editor can act upon. SCOPE DISPLAY is the initial setting and, as such, restricts editor action to only those lines that are defined by SET DISPLAY. By default, SET SHADOW displays a notice indicating how many lines are not being displayed in the physical position of the excluded lines in the file. If SET SHADOW is "OFF," only those lines defined by SET DISPLAY will appear on the screen, with no shadow lines to indicate where lines are not being displayed.

2. For examples of this and other selective line editing subcommands, you can examine the following IBM-supplied macros: ALL (whose fileid is ALL XEDIT), which restricts editing to a particular set of lines, and the X prefix macro (whose fileid is PREFIXX XEDIT), which excludes lines from the display.

3. If you specify -n, which would cause the selection level of the line to be negative, the selection level is set to zero instead.

4. TOF and EOF will always be set to the n1 value of SET DISPLAY, even though you cannot assign a selection level to either of them.

5. For more information on selective line editing, see "Appendix B."

Responses:

If you specify that SET SELECT is to occur on multiple lines and it does occur, the current line pointer will be:

a. Unchanged if SET STAY ON has been issued

b. Moved to the last line assigned a selection level, if SET STAY OFF is in effect (the default).

If SCOPE DISPLAY is set and the current line's selection level is not within the SET DISPLAY n1 n2 values, the editor forces the current line out of the display, causing the first line following it in the scope to be the new current line. This can occur if:

a. You issue SET SELECT changing the current line's selection level

b. You issue SET DISPLAY, changing lines that are displayed

c. You issue SET SCOPE DISPLAY and the previous setting was SCOPE ALL.

Error Messages:

```
520E INVALID OPERAND :  operand, RC=5
545E MISSING OPERAND(S), RC=5
546E TARGET NOT FOUND, RC=2
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING, RC=5
```

Return Codes:

0 Normal
2 Target not found
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Example:

Figure 3-14 demonstrates the usage of the selective line editing subcommands: SET SELECT, SET SHADOW, SET DISPLAY, AND SET SCOPE.

Elbert had a record collection for which he established a "names" file. He used the following organization scheme:

```
NICK      O for opera
          C for classical

COMPOSER  Name of Composer

NAME      Name of Composition

ADDRESS   C or O, depending on type,
          followed by the assigned number
          on the record jacket.
```

Elbert wanted to be able to list all the records in his collection by type. Using the macro below, Elbert located all the lines in the file which contained :nick.O and assigned a selection level of 1 to them. He also located all lines in the file which contained :nick.C, assigning a selection level of 2 to them.

```
/**** Xedit macro to set selection levels for Elbert's Records ...******/
'COMMAND TOP'                       /* Start at the Top of the file      */
'COMMAND SET WRAP OFF'              /* Do not wrap on Locate command!    */
'COMMAND SET MSGMODE OFF'           /* Suppress 'TARGET NOT FOUND' msg   */
'COMMAND SET CASE M I'              /* Ignore case on searches           */
'COMMAND LOCATE /:NICK.O/'          /* Look for first :nick.O            */
Do until rc ¬= 0                    /* Loop until LOCATE fails (rc > 0)  */
  'COMMAND SET SELECT 1 1'          /* Set selection level 1             */
  'COMMAND LOCATE /:NICK.O/'        /* Now, find the next one...         */
  End                               /* End of loop                       */
'COMMAND TOP'                       /* Start at top again                */
'COMMAND LOCATE /:NICK.C/'          /* Now look for :nick.C              */
Do until rc ¬= 0                    /* Loop until LOCATE  fails (rc>0)   */
  'COMMAND SET SELECT 2 1'          /* Set selection level               */
  'COMMAND LOCATE /:NICK.C/'        /* Find next occurrence              */
  End                               /* End of Loop                       */
'COMMAND TOP'                       /* Go back to the top                */
'COMMAND SET MSGMODE ON'            /* Now we want messages again        */
Exit                                /* Exit the macro                    */
```

Note: Please note that after the macro executes, you will be at the top of your file. For purposes of allowing you to see more of the file, however, we have moved down in the file to make line 9 the current line.

Figure 3-14 (Part 1 of 6). SET SELECT, SET SHADOW, SET DISPLAY, and SET SCOPE

All nick.O or nick.C lines in the file have now been assigned a selection level. They appear as shadow lines, because the initial setting of SET DISPLAY is 0 0 and any lines in the file not assigned a selection level of 1 or 2 will have a selection level of 0. In order to look at all the nick.O compositions, Elbert issued the command, SET DISPLAY 1 1 as shown below.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=9 COL=1 ALT=0

===== * * * TOP OF FILE * * *
===== ------------------- 1  line(s) not displayed  --------------------
=====                  :addr.O1
=====
===== ------------------- 1  line(s) not displayed  --------------------
=====                  :addr.C1
=====
===== ------------------- 1  line(s) not displayed  --------------------
=====                  :addr.C4
=====
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ------------------- 1  line(s) not displayed  --------------------
=====                  :addr.C3
=====
===== ------------------- 1  line(s) not displayed  --------------------
=====                  :addr.O2
=====
===== ------------------- 1  line(s) not displayed  --------------------
=====                  :addr.C2
===== * * * END OF FILE * * *
====> set display 1 1
                                                          X E D I T  1 FILE
```

The resulting display listed only those lines in the file with a selection level of 1 or those assigned to nick.O lines in the file. Elbert then set the display to list all lines assigned a selection level of 2, by issuing the subcommand below.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=13 COL=1 ALT=0









===== * * * TOP OF FILE * * *
===== :nick.O          :Composer.Puccini:name.LaBoheme
===== ------------------- 11  line(s) not displayed  --------------------
===== :nick.O          :Composer.Verdi:name.Aida
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ------------------- 4  line(s) not displayed  --------------------
===== * * * END OF FILE * * *









====> set display 2 2
                                                          X E D I T  1 FILE
```

Figure 3-14 (Part 2 of 6). SET SELECT, SET SHADOW, SET DISPLAY, and SET SCOPE

The display now listed only Elbert's classical selections (nick.C). To list both types of selections, Elbert issued the command, SET DISPLAY 1 2. That displayed all lines in the file with either a selection level of 1 or 2.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=16 COL=1 ALT=0

===== * * * TOP OF FILE * * *
===== ------------------- 3  line(s) not displayed  -------------------
===== :nick.C         :Composer.Grieg:name.Peer Gynt Suites
===== ------------------- 2  line(s) not displayed  -------------------
===== :nick.C         :Composer.Ravel:name.Piano Concerto in G Major
===== ------------------- 2  line(s) not displayed  -------------------
===== :nick.C         :Composer.Offenbach:name.Les Bavards
===== ------------------- 5  line(s) not displayed  -------------------
===== :nick.C         :Composer.Mozart:name.Eine kleine Nachtmusik
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ------------------- 1  line(s) not displayed  -------------------
===== * * * END OF FILE * * *




====> set display 1 2
                                                        X E D I T  1 FILE
```

Annoyed by the appearance of shadow lines in the screen display, Elbert issued the subcommand, SET SHADOW OFF to eliminate shadow lines from the screen display.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=16 COL=1 ALT=0

===== ------------------- 2  line(s) not displayed  -------------------
===== :nick.C         :Composer.Grieg:name.Peer Gynt Suites
===== ------------------- 2  line(s) not displayed  -------------------
===== :nick.C         :Composer.Ravel:name.Piano Concerto in G Major
===== ------------------- 2  line(s) not displayed  -------------------
===== :nick.C         :Composer.Offenbach:name.Les Bavards
===== ------------------- 2  line(s) not displayed  -------------------
===== :nick.O         :Composer.Verdi:name.Aida
===== ------------------- 2  line(s) not displayed  -------------------
===== :nick.C         :Composer.Mozart:name.Eine kleine Nachtmusik
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ------------------- 1  line(s) not displayed  -------------------
===== * * * END OF FILE * * *




====> set shadow off
                                                        X E D I T  1 FILE
```

Figure 3-14 (Part 3 of 6). SET SELECT, SET SHADOW, SET DISPLAY, and SET SCOPE

The result is a listing of all lines in the file which have been assigned selection levels. Please note the absence of shadow lines.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=16 COL=1 ALT=0



===== * * * TOP OF FILE * * *
===== :nick.O         :Composer.Puccini:name.LaBoheme
===== :nick.C         :Composer.Grieg:name.Peer Gynt Suites
===== :nick.C         :Composer.Ravel:name.Piano Concerto in G Major
===== :nick.C         :Composer.Offenbach:name.Les Bavards
===== :nick.O         :Composer.Verdi:name.Aida
===== :nick.C         :Composer.Mozart:name.Eine kleine Nachtmusik
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== * * * END OF FILE * * *




====> set scope all
                                                        X E D I T  1 FILE
```

Figure 3-14 (Part 4 of 6). SET SELECT, SET SHADOW, SET DISPLAY, and SET SCOPE

Elbert decided to add some country and western records to his collection. In order to avoid confusion between his classical records and his country records, he changed .C to .X. In the previous screen, he issued SET SCOPE ALL to expand editor control to include the entire file. This was necessary so that both the lines listing composers' names and those listing record addresses would be changed.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=16 COL=1 ALT=0


===== * * * TOP OF FILE * * *
===== :nick.O         :Composer.Puccini:name.LaBoheme
===== :nick.C         :Composer.Grieg:name.Peer Gynt Suites
===== :nick.C         :Composer.Ravel:name.Piano Concerto in G Major
===== :nick.C         :Composer.Offenbach:name.Les Bavards
===== :nick.O         :Composer.Verdi:name.Aida
===== :nick.C         :Composer.Mozart:name.Eine kleine Nachtmusik
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== * * * END OF FILE * * *







====> :1 change/.C/.X/ * *
                                                        X E D I T  1 FILE
```

In order to display the entire file, Elbert issued SET DISPLAY 0 * This displayed all selection levels of lines, starting with 0.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=18 COL=1 ALT=1
DMSXCG517I 8 OCCURRENCE(S) CHANGED ON 8 LINE(S).


===== * * * TOP OF FILE * * *
===== :nick.O         :Composer.Puccini:name.LaBoheme
===== :nick.X         :Composer.Grieg:name.Peer Gynt Suites
===== :nick.X         :Composer.Ravel:name.Piano Concerto in G Major
===== :nick.X         :Composer.Offenbach:name.Les Bavards
===== :nick.O         :Composer.Verdi:name.Aida
===== :nick.X         :Composer.Mozart:name.Eine kleine Nachtmusik
===== * * * END OF FILE * * *
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...









====> set display 0 *
                                                        X E D I T  1 FILE
```

Figure 3-14 (Part 5 of 6). SET SELECT, SET SHADOW, SET DISPLAY, and SET SCOPE

Following the changes, Elbert's file looks like the display below. Please note that we have changed the current line, without issuing the subcommand here, so that you may see more of the file.

```
 ELBERT   NAMES    A0  V 255  TRUNC=255 SIZE=17 LINE=9 COL=1 ALT=1
===== * * * TOP OF FILE * * *
===== :nick.O          :Composer.Puccini:name.LaBoheme
=====                  :addr.O1
=====
===== :nick.X          :Composer.Grieg:name.Peer Gynt Suites
=====                  :addr.X1
=====
===== :nick.X          :Composer.Ravel:name.Piano Concerto in G Major
=====                  :addr.X4
=====
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== :nick.X          :Composer.Offenbach:name.Les Bavards
=====                  :addr.X3
=====
===== :nick.O          :Composer.Verdi:name.Aida
=====                  :addr.O2
=====
===== :nick.X          :Composer.Mozart:name.Eine kleine Nachtmusik
=====                  :addr.X2
===== * * * END OF FILE * * *
====>
                                                        X E D I T  1 FILE
```

Figure 3-14 (Part 6 of 6). SET SELECT, SET SHADOW, SET DISPLAY, and SET SCOPE

SET SERIAL

Use the SERIAL option to control file serialization.

The format of the SET SERIAL subcommand is:

```
[SET]   SERial   ON      [ incrno ] [ startno ] ]
                         [ 10     ] [ 10      ]
                 ALL     [ incrno ] [ startno ] ]
                         [ 1000   ] [ 1000    ]
                 string  [ incrno ] [ startno ] ]
                         [ 10     ] [ 10      ]
                 OFF
```

where:

ON
: adds a serial identification in the last eight columns of each file line. The serial identification consists of the first three letters of the filename plus five digits, where startno is the starting value and incrno is the increment.

ALL
: adds a serial identification in the last eight columns of each file line. The serial identification consists of eight digits, where startno is the starting value and incrno is the increment.

string
: adds a serial identification in the last eight columns of each file line. The serial identification consists of the characters specified in string, and, if string contains fewer than eight characters, a number, where startno is the starting value and incrno is the increment. If string contains more than eight characters, it is truncated to eight characters.

OFF
: specifies that the serial identification area is not to be updated the next time the file is written to disk.

Initial Setting:

Based on filetype. See "Appendix A."

Usage Notes:

1. Only files with a fixed record format can be serialized.

2. The serialization takes place only when a FILE or SAVE subcommand is issued.

3. To remove the serial identification from a file whose logical record length is 80, you can use the following sequence of subcommands:

```
SET TRUNC 80
SET ZONE 1 80
SET SERIAL OFF
TOP
NEXT
CLOCATE :73
CDELETE 8
REPEAT *
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
558E WRONG FILE FORMAT FOR SERIALIZATION,RC=5
560E NOT ENOUGH SPACE FOR SERIALIZATION BETWEEN TRUNC AND LRECL
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SHADOW

Use the SHADOW option to display a notice (called a shadow line) that indicates how many lines have been excluded from the display. The shadow line appears in the physical position in the file of the excluded lines(s). For an illustration of how SET SHADOW can be used effectively in combination with the other selective line editing subcommands (SET SELECT, SET SCOPE, and SET DISPLAY), see SET SELECT in this publication.

The format of the SET SHADOW subcommand is:

[SET]	SHADow ON|OFF

where:

ON
: displays a shadow line which cites the number of lines omitted in the display. Each shadow line is in the physical position of the omitted line or block of lines.

OFF
: causes lines not displayed by virtue of the SET DISPLAY subcommand to disappear totally from the screen, thus allowing no visual representation of them.

Initial Setting:

SHADOW ON

Usage Notes:

1. For examples of this and other selective line editing subcommands, you can examine the following IBM-supplied macros: ALL, (whose fileid is ALL XEDIT), which restricts editing to a particular set of lines, and the X prefix macro (whose fileid is PREFIXX XEDIT), which excludes lines from the display. See also "Appendix B."

2. If a prefix macro is entered on a shadow line, then the line number of the first excluded line is passed to the macro as "pline" (the line number on which the prefix macro was entered). (Refer to SET PENDING in this publication.)

3. With SET NUMBER ON, the sequence numbers enable you to determine which lines are excluded from the display. This is especially useful if SHADOW OFF has been set. If SHADOW is ON, the sequence number in a shadow line is the first line in a block of excluded lines.

Error Messages:

```
520E  INVALID OPERAND :  operand,RC=5
545E  MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SIDCODE

Use the SIDCODE option to insert a character string in every line of an update file. The string is inserted in columns 64-71 and those columns are padded with blanks, if necessary. Any data in columns 64-71 are overlaid.

The format of the SET SIDCODE subcommand is:

[SET]	SIDcode [string]

where:

`string`
is the character string (1-8 characters) that is to be inserted in every line of an update file. If you omit string, SIDCODE is set to blanks. If string contains more than eight characters, it is truncated to eight characters.

Initial Setting:

SIDCODE is set to blanks (or as specified in the XEDIT command or the LOAD subcommand.)

Usage Notes:

1. The string is inserted in every line of an update file when at least one change is made to the update file and it is filed (or saved).

2. See also the SIDCODE option of the XEDIT command.

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SPAN

Use the SPAN option to specify if a character string, which is the subject of a target search, must be included in one line in order to be found, or if it may span a specified number of lines.

The format of the SET SPAN subcommand is:

```
[SET]   SPAN   ON [Blank   [ n ]]
                  [Noblank [ * ]]
               OFF
```

where:

`ON`
specifies that lines are concatenated during a search for a character string. Trailing blanks are removed.

`Blank`
specifies that one blank character is inserted between consecutive file lines and must be considered when defining the target. This is the standard setup for SCRIPT and other text files. Lines are temporarily concatenated for the search, separated by one blank. Any trailing blanks are ignored.

`Noblank`
specifies that consecutive file lines are concatenated temporarily but are not separated by a blank.

`n`
specifies the number of consecutive file lines that a character string can span. If an asterisk (*) is specified the rest of the file is searched.

`OFF`
specifies that a character string must be included within one file line in order to match a target.

Initial Setting:

```
SPAN  OFF  BLANK  2
```

Usage Notes:

1. When consecutive file lines are searched for a string, the search occurs within the columns defined in the SET ZONE subcommand. Portions of consecutive lines are concatenated for the search, separated or not by blanks (as specified in SET SPAN ON BLANK or SET SPAN ON NOBLANK).

2. In SCRIPT or other text processing files, SET SPAN ON BLANK and SET VARBLANK ON can be combined to advantage.

   If the file contains

```
left zone                                                    right zone
1                                                                 72

                              The house
was near
```

on two consecutive lines, the two file lines, when concatenated for the search if SET SPAN is ON, would have many blanks (depending on the logical record length) between "house" and "was," in addition to the single blank inserted because of SET SPAN ON BLANK. However, the SET VARBLANK ON would still permit the target /house was/ to match the text.

On the other hand, a programmer editing an object deck produced by a compiler (filetype TEXT, zones 1 72) or a PL/I source program (filetype PLI, zones 2 72) should use SET SPAN ON NOBLANK, since no implicit blanks are assumed to separate lines.

For example:

```
left zone                                                    right zone
1                                                                 72

                                                    X=' THE LIT
TLE HOUSE';
```

The target /THE LITTLE HOUSE/ will be found.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SPILL

Use the SPILL option to specify if data is spilled onto new lines or lines are truncated following these subcommmands: CHANGE, CINSERT, COVERLAY, CREPLACE, EXPAND, GET, INPUT, MERGE, OVERLAY, REPLACE, SHIFT, (and macros that use these subcommands internally, including CAPPEND, JOIN and PRFSHIFT (>, >>)).

The format of the SET SPILL subcommand is:

[SET]	SPILL ON|OFF|WORD

where:

ON
: specifies that characters pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character that would have gone beyond the truncation column.

OFF
: specifies that any characters pushed beyond the truncation column are lost.

WORD
: specifies that characters pushed beyond the truncation column are used to create one or more new lines, as necessary. However, a word is not split between lines if possible. It is moved, or "spilled," in its entirety. Thus, the first character of each new line is the first non-blank character following the last blank within the truncation setting (see SET TRUNC) on the affected line.

Initial Setting:

Based on filetype. See "Appendix A."

Usage Note:

1. SET SPILL affects only SHIFT issued with the RIGHT operand; any characters shifted past the truncation column spill onto new lines. SET SPILL has no effect on SHIFT LEFT; data shifted to the left past the zone1 column is lost.

2. For GET, the LRECL is used for the truncation column instead of the TRUNC setting.

3. For JOIN, SPILL OFF functions like SPILL ON. JOIN does not truncate data.

4. Recovered lines (see RECOVER) are not spilled.

5. New lines which are inserted because of the SPILL setting will always be inserted starting at column 1, regardless of whether SET IMAGE is ON or OFF.

6. When SET VERIFY is ON and a line is changed by a subcommand and spilled as a result, the last line inserted due to SET SPILL will be displayed.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

```
With SET SPILL WORD:

===== Now is the time for all good men to come to the aid of their party.

====> c/good/good, courageous, stout-hearted/

results in:

===== Now is the time for all good, courageous, stout-hearted men to come to
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7.T.
===== the aid of their party.

With SET SPILL ON, the same CHANGE subcommand results in:

===== Now is the time for all good, courageous, stout-hearted men to come to t
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7.T.
===== he aid of their party.
```

SET STAY

Use the STAY option to specify whether or not the line pointer is to move when a string that is the object of a LOCATE target search, FIND, FINDUP, NFIND, or NFINDUP is not found. Also, use the STAY option to specify whether or not the line pointer is to move when a string that is the object of the target search for CHANGE, COUNT, COMPRESS, EXPAND, LOWERCAS, SET SELECT, SHIFT, or UPPERCAS is found.

The format of the SET STAY subcommand is:

[SET]	STAY ON OFF

where:

ON
: specifies that the line pointer is *not to move.*

OFF
: specifies that the line pointer moves.

Initial Setting:

```
STAY  OFF
```

Usage Notes:

1. SET STAY applies to LOCATE target searches and FIND family searches issued to the end of file (or end of range). With SET STAY OFF, the null END OF FILE (or END OF RANGE) line will become the new current line if a search is unsuccessful. The TOP OF FILE (or TOP OF RANGE) line becomes the new current line if the search was in a backward direction. With SET STAY ON, the current line remains the same.

2. SET STAY applies also to the following subcommands: CHANGE, COUNT, COMPRESS, EXPAND, LOWERCAS, SET SELECT, SHIFT, and UPPERCAS. With SET STAY OFF, the last line examined or acted upon becomes the new current line; with SET STAY ON, the line pointer does not move when the subcommand is executed.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET STREAM

Use the STREAM option to specify whether the editor is to search the entire file or only the current line for a character string that is a column-target in a CLOCATE or CDELETE subcommand.

The format of the SET STREAM subcommand is:

[SET]	STReam ON OFF

where:

ON
: specifies that the editor begins searching at the character following the column pointer and continues to the bottom of the file (or of the range). (If the search is in the other direction, the editor begins searching at the character preceding the column pointer and continues to the top of the file (or of the range)).

OFF
: specifies that the editor searches only the current line (within the limits defined by the SET ZONE subcommand).

Initial Setting:

```
STREAM  ON
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET SYNONYM

The SET SYNONYM subcommand has three formats.

Use the first format to specify whether or not the editor is to look for synonyms.

Use the second format to assign a synonym to any existing subcommand or macro (except prefix subcommands or prefix macros) and, optionally, to define an abbreviation for the synonym. (You must use the SET PREFIX subcommand to define a synonym for a prefix subcommand or macro.)

The third format provides a more complex function, which is used when the synonym represents a subcommand whose operands are entered in a different order than the XEDIT subcommand operands. The operands are automatically rearranged into the order expected by XEDIT.

The format of the SET SYNONYM subcommand is:

[SET]	SYNonym	ON OFF
	SYNonym	[LINEND char] newname [n] oldname
	SYNonym	[LINEND char] newname [n[format1...formatn]] oldname[&1...&n]

where:

ON
: specifies that the editor is to look for synonyms.

OFF
: specifies that the editor is not to look for synonyms.

LINEND char
: specifies a character that is interpreted as a line end character regardless of the current SET LINEND setting at the time the synonym is used.

newname
: is the synonym to be assigned to the subcommand or macro. The synonym can be an alphabetic string from one to eight characters long, or it can be a single alphabetic, numeric, or special character.

n
: is the minimum number of characters that must be entered for the synonym to be accepted, that is, its minimum abbreviation. If you omit n, the full synonym name (newname) must be entered.

format1...formatn
: specifies the format for the "new" operands. Each operand must be entered in the format specified. Format is defined as one of the following:

  - `&` the operand is delimited by blanks.
  - `&/` the operand is a string enclosed by delimiters, for example, /ABC/.
  - `&.` the operand is the first of two strings that are separated by a common delimiter. The second string would be specified as `&/`.
  - `&*` represents all the remaining data.

`oldname`
: is the name of a subcommand or macro for which you are creating a synonym. It may be a compounded name (for example, QUERY PF) or a subcommand name followed by its arguments.

`&1....&n`
: specifies the relative order in which the new operands are to be inserted in the XEDIT subcommand, even though they are entered in a different order with the synonym. `&1` represents the first operand in the synonym operand list, `&2` represents the second operand, and so forth. The list specified here is positional and determines how the operands are to be rearranged.

Initial Setting:

`SYNONYM ON` and the following synonyms are defined:

```
SET SYNONYM ALTER       2 ALTER
SET SYNONYM CAPPEND     2 CAPPEND
SET SYNONYM FILE        4 COMMAND PFILE
SET SYNONYM SSAVE       2 COMMAND SAVE
SET SYNONYM FFILE       2 COMMAND FILE
SET SYNONYM HEXTYPE     4 HEXTYPE
SET SYNONYM JOIN        1 JOIN
SET SYNONYM MODIFY      3 MODIFY
SET SYNONYM QUIT        4 COMMAND PQUIT
SET SYNONYM QQUIT       2 COMMAND QUIT
SET SYNONYM SAVE        4 COMMAND PSAVE
SET SYNONYM SPLIT       2 SPLIT
SET SYNONYM STATUS      4 STATUS
```

Usage Notes:

1. The "newname" operand can be the name of an existing XEDIT subcommand. In this case, the SYNONYM subcommand defines a new meaning for that subcommand name. The original meaning can be obtained by using:

   `COMMAND` *oldname ...*

   or

   `SET SYNONYM OFF`
   oldname...

2. Newname can be alphabetic or it can be a single special character. For example:

   ```
   SYN / 1 CLOCATE/
   ```

   causes implicit LOCATEs, such as a /string/ target, to become CLOCATEs.

3. A synonym should not be defined for a name that is already defined as a synonym. For example:

```
SYNONYM ERASE DELETE
SYNONYM REMOVE ERASE
```

If REMOVE is entered, the editor looks for a subcommand called ERASE, not for a subcommand called DELETE.

```
SYNONYM ADD DELETE
SYNONYM LINEND $ SXMS LOCATE/A/$ADD
```

If SXMS is entered a line is added after the line containing string A. The DELETE does not occur.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
547E SYNONYM DEFINITION INCOMPLETE.,RC=5
548E INVALID SYNONYM OPERAND : operand.,RC=5
549E SYNONYM ABBREVIATION TOO LARGE.,RC=5
550E TOO MANY OPERANDS IN SYNONYM DEFINITION.,RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Simple form:

1. `SYN DOWN 1 UP`
2. `SYN QPF QUERY PF`
3. `SYN LINEND | QK 2 QUERY PF|QUERY PA|QUERY ENTER`

   Entering QK displays the PF, PA, and ENTER key settings.

Complex form:

1. `SYN PUTFILE 3 & & & & PUT &4 &1 &2 &3`

   If you enter the command as follows:

   `PUT` *fn ft fm n*

   The editor rearranges it as follows:

   `PUT` *n fn ft fm*

2. `SYN ALTER 2 &. &/ &* CHANGE /X'&1'/X'&2'/&3`

   This example translates the subcommand:

   `ALTER /7B/15/ * *`

   to the following:

   `CHANGE /X'7B'/X'15'/ * *`

SET TABLINE

Use the TABLINE option to display, on a specified line, a "T" in every tab column according to the current tab settings (See SET TABS in this book).

The format of the SET TABLINE subcommand is:

[SET]	TABLine ON [M[+n|-n] | [±|-]n] OFF

where:

ON
: displays the tab line.

M [+n|-n]
: specifies the line in which the tab line is displayed. M stands for "middle of the screen" (rounded up for odd-sized screens). M may be combined with a constant positive or negative integer to mean n lines below the middle of the screen (M+n), or n lines above the middle of the screen (M-n).

[±|-]n
: specifies the line in which the tab line is displayed. n or +n (+ is implicit) specifies that the tab line is displayed n lines from the top of the screen: -n specifies that the tab line is displayed n lines from the bottom of the screen.

OFF
: removes the tab line from the screen.

Initial Setting:

TABLINE OFF -3 (three lines from the bottom of the screen).

Usage Note:

TABLINE can be set on the same line as the scale line (see SET SCALE).

Response:

The specified line contains a "T" in every tab column.

For example:

```
T  T  T  T  T  T  T  T
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
526E OPTION 'TABLINE' VALID IN DISPLAY MODE ONLY,RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
3 Operand is valid only for display terminal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

`TABLINE ON M`	displays the tab line in the middle of the screen.
`TABLINE ON M+3`	displays the tab line three lines below the middle of the screen.
`TABLINE ON -3`	displays the tab line three lines from the bottom of the screen.

SET TABS

Use the TABS option to define the logical tab stops for a file.

The format of the SET TABS subcommand is:

[SET]	TABS n1[n2...n28]

where:

`n1...n28`
define the column numbers for logical tab settings. You may specify up to 28 numbers, separated from each other by at least one blank.

Initial Setting:

Based on filetype. See "Appendix A."

Usage Notes:

1. A SET IMAGE ON subcommand must be in effect for a X'05' to be recognized as a tab character in an input line.

2. A line containing tab characters can be entered from the terminal or the console stack. A tab character in an input line causes "space" characters to be inserted up to (but not including) the next tab position. The "space" character is, in fact, the character defined by SET FILLER, whose default is a blank.

3. The COMPRESS subcommand inserts tab characters in a line and can be used with the EXPAND subcommand to realign data according to a SET TABS subcommand. (See "COMPRESS, EXPAND.")

4. On a display terminal, the SET TABS subcommand controls not only the *logical* tab settings but also the *physical* tab settings. A PF key can be set up to function like a tab key on a typewriter (see SET PFn TABKEY); each time the PF key is pressed, the cursor moves to the next column as defined in the SET TABS subcommand.

5. The default tab settings differ according to filetype and can be displayed by QUERY TABS.

6. To define a tabulation character, issue the CMS command, SET INPUT. For example:

   ```
   CMS SET INPUT > 05
   ```

   defines a ">" as the tabulation character.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
575E INVALID TABS COLUMNS DEFINED.,RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET TERMINAL

Use the TERMINAL option to specify whether a terminal is to be used in line mode or in full screen mode. (This option is meaningful only on a display terminal.)

The format of the SET TERMINAL subcommand is:

[SET]	TERMinal Typewriter Display

where:

`Typewriter`
specifies that the display terminal is to be used in line mode.

`Display`
specifies that the terminal is to be used in full screen mode.

Usage Notes:

1. With a remote display terminal, full screen performance depends on the line transmission rate; if it is too slow, line mode (TYPEWRITER) may be specified.

2. In case of a severe transmission error while in full screen mode (DISPLAY), the editor automatically switches to line mode (TYPEWRITER).

3. If you are editing a file in full screen mode and you issue a DISCONN (disconnect) command, you must issue BEGIN after you reconnect. Otherwise, the editor resumes editing your file in line mode.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
526E OPTION 'TERMINAL' VALID IN DISPLAY MODE ONLY.,RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
3 Operand is valid only for display terminal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET TEXT

Use the TEXT option to inform the editor if TEXT keys are available on the terminal.

The format of the SET TEXT subcommand is:

[SET]	TEXT ON OFF

where:

ON
: specifies that TEXT keys are available. You must issue a SET TEXT ON before using these keys so that proper character code conversion takes place.

OFF
: specifies that no code conversion is to be performed for TEXT keys.

Initial Setting:

According to the CP TERMINAL TEXT setting when the editor is invoked.

Usage Notes:

1. If a terminal is equipped with the TEXT feature, special TEXT keys are available. Before using these keys, you must inform the editor so that proper character code conversion takes place. There are two ways to inform the editor:

   a. In CP mode, you can issue a TERMINAL TEXT ON command, which will be recognized when the editor is invoked.

   b. If the CP TERMINAL command has not been issued in CP mode, you must issue the editor SET TEXT subcommand.

   If instead, you issue a CP TERMINAL command directly to CP while in edit mode (via the CP or CMS subcommand or in subset mode), the editor will *not* recognize the command and will not perform the necessary conversions.

   Note: If you have issued the editor SET TEXT subcommand (not the CP TERMINAL command), then TEXT characters will not be properly translated on messages that are displayed on a cleared screen.

2. Because the conversion is costly, it is recommended that you issue the XEDIT subcommand SET TEXT OFF when you stop using the special keys.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
524W NONDISP CHARACTER RESET TO ".
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET TOFEOF

Use the TOFEOF option to control the display of the following notices:

TOP OF FILE
END OF FILE
TOP OF RANGE
END OF RANGE

The format of the TOFEOF subcommand is:

[SET]	TOFEOF ON OFF

where:

ON
specifies that the notices listed above are displayed.

OFF
specifies that the notices listed above are not displayed.

Initial Setting:

```
TOFEOF ON
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET TRANSLAT

Use the TRANSLAT option to control uppercase translation of specified characters. This option is designed to be used on terminals whose keyboards support characters other than English. By default, only English alphabetic characters are translated to uppercase.

The format of the SET TRANSLAT subcommand is:

[SET]	TRANSLat char1 char2 [char1 char2] ..... OFF

where

char1 char2
: define a lowercase/uppercase pair of characters. Char1 is the lowercase character, and char2 is the uppercase character. Either may be specified as a single EBCDIC character or a two-digit hexadecimal character.

OFF
: indicates that characters are not to be translated to uppercase.

Initial Setting:

Only English characters are translated to uppercase.

Usage Notes:

1. For data lines, translation occurs only if SET CASE UPPER is in effect or if a line(s) is changed to uppercase (by the UPPERCAS subcommand, for example). An existing data line is not translated to uppercase unless a change is made to the line, in which case the entire line is translated.

2. Commands are translated if SET CASE UPPER is in effect.

3. Translation specified by SET TRANSLAT occurs only for uppercase. For lowercase, the system-supplied translate table is used.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Assuming the terminal keyboard has the French character set and SET CASE UPPER:

```
SET TRANSLAT 51 E

(X'51' is "e" acute.)
```

User enters:

```
      / /     /           /
liberte egalite fraternite
```

which results in:

```
LIBERTE EGALITE FRATERNITE
```

SET TRUNC

Use the TRUNC option to define the truncation column, which is the last column in a line in which data may be entered or modified.

The format of the SET TRUNC subcommand is:

[SET]	TRunc n *

where:

n
: specifies the column at which truncation (or "spilling" - see SET SPILL) occurs. If you specify an asterisk (*), the truncation column is set to the record length for the filetype.

Initial Setting:

Based on filetype. See "Appendix A."

Usage Notes:

1. Data that is entered beyond the truncation column is not shifted due to character insertion or deletion.

2. When editing a file in update mode, you cannot SET TRUNC to a value greater than 72.

Error Messages:

```
009E COLUMN 'nn' EXCEEDS RECORD LENGTH (nn),RC=5
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET VARBLANK

Use the VARBLANK option to control whether or not the number of blank characters between two words is significant in a target search.

The format of the SET VARBLANK subcommand is:

[SET]	VARblank ON OFF

where:

ON
: specifies that the number of blanks between two words can be variable and does not matter in searching for a target.

  For example:

  ```
  /the  house/
  ```

  will match in the text:

  ```
  "the      house"
  ```

  and will also match

  ```
  "the            house"
  ```

OFF
: specifies that the number of blanks between two words is significant in a target search. Each blank in the target string matches one blank in the file.

Initial Setting:

```
VARBLANK OFF
```

Usage Notes:

1. SET VARBLANK ON is useful when editing text files, if periods at the end of sentences are not always followed by the usual two blanks or SCRIPT output files, where multiple blanks are generated between words for justification.

2. SET VARBLANK ON is useful with SET SPAN ON.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET VERIFY

Use the VERIFY option:

- To control whether or not lines that are changed by subcommands are to be displayed (in the message area, for a display terminal)
- To define the columns that are to be displayed when a file appears on the screen. Optionally, data may be displayed in hexadecimal notation.

The format of the SET VERIFY subcommand is:

[SET]	Verify [ON / OFF] [[Hex] startcol endcol] ...

where:

ON
: specifies that all lines changed by subcommands are to be displayed. (This is the initial setting for a typewriter terminal.)

OFF
: specifies that lines changed by subcommands are not to be displayed. (This is the initial setting for a display terminal.)

Hex
: displays the data in hexadecimal notation.

startcol endcol
: is a pair of column numbers that defines an area to be displayed.

Initial Setting:

Based on filetype. See "Appendix A."

Usage Notes:

1. Up to 28 pairs of columns may be specified. For example:

   ```
   V 1 20 40 50
   ```

   displays columns 1 through 20, and 40 through 50.

2. An area can be displayed in both EBCDIC and hexadecimal. For example:

   ```
   V 1 20 H 1 20
   ```

   displays columns 1 through 20 in both EBCDIC and hexadecimal.

3. The data can be changed in either the EBCDIC or the hexadecimal display. If changed in the hexadecimal display, changes must be entered in hexadecimal. If you type an invalid hexadecimal code, the following message is displayed on the first line of the screen (the file identification line):

   ```
   INVALID HEX-DATA ON SCREEN:
   ```

4. The SET IMAGE setting affects the way that hexadecimal data is treated. An example of this would be, if IMAGE is ON and you enter a X '05', it will expand into X '40's (or to whatever the FILLER character is in hexadecimal) to the next tab position.

5. In multiple views of the same column, if changes are made on the screen the right-most change is the effective one.

6. The columns specified in a SET VERIFY subcommand override any RIGHT or LEFT subcommand that was in effect.

7. The editor displays a file line on as many screen lines as necessary. You can turn off this "automatic line wrapping" feature by issuing the appropriate SET VERIFY subcommand.

   For example, the default VERIFY setting for a SCRIPT filetype is 1-132. To display only columns 1-72 of each line, thereby preventing lines longer than 72 characters from wrapping around to the next screen line, you could issue SET VERIFY 1 72. (You could then use a RIGHT subcommand to view the columns of data extending past column 72.)

   Automatic line wrapping is not available on vertical screens.

Error Messages:

```
009E COLUMN 'nn' EXCEEDS RECORD LENGTH (nn).,RC=5
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
575E INVALID VERIFY COLUMNS DEFINED.,RC=5
576E TOTAL VERIFY EXCEEDS SCREEN SIZE (nn).,RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET WRAP

Use the WRAP option to control whether or not the editor is to "wrap around" the file if the end of file (or range) is reached during a LOCATE, CLOCATE, FIND, FINDUP, NFIND, or NFINDUP subcommand.

The format of the SET WRAP subcommand is:

[SET]	WRap ON OFF

where:

ON
: specifies that the editor is to continue the search up to the line preceding the current line (or following the current line, depending on the search direction). When a CLOCATE is issued, the search continues up to the character preceding the column pointer (or following the column pointer).

OFF
: specifies that the editor is to stop searching at the end (or top) of file (or range).

Initial Setting:

```
WRAP  OFF
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET ZONE

Use the ZONE option to define the columns (starting position and ending position) of each record to be scanned for target searches. The editor searches for targets only within the zone.

The format of the SET ZONE subcommand is:

[SET]	Zone zone1 zone2 *

where:

zone1
: is the starting (left) column number of the zone.

zone2
: is the ending (right) column number of the zone. If you specify an asterisk (*), zone2 is the truncation column. (Zone2 cannot be larger than the truncation column.)

Initial Setting:

The ZONE is set from the first tab column up to the truncation column.

Usage Notes:

1. Column pointer movement is limited by the zone definition: the CFIRST subcommand places the column pointer in column zone1; the CLAST subcommand places the column pointer in column zone2.

2. When a character string that is the target of a search spans several lines and the following subcommand has been issued:

   ```
   SET SPAN ON NOBLANK
   ```

   Column zone2 of the current line is immediately followed by column zone1 of the next line, with no intervening blank.

   If the following subcommand has been issued:

   ```
   SET SPAN ON BLANK
   ```

   Column zone2 of the current line is considered to be separated by a blank from column zone1 of the next line.

3. For a CHANGE subcommand, the string to be changed (string1) is searched for only within the defined zones.

Response:

When a SET ZONE subcommand is issued, its effect on column pointer movement is one of the following:

- If the column pointer already lies between the two new zones, it remains unchanged.
- If the current setting of the column pointer is less than zone1, it moves to the column defined by zone1-1 (TOL).
- If the current setting of the column pointer is greater than zone2, it moves to the column defined by zone2+1 (EOL).

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
575E INVALID ZONE COLUMNS DEFINED.,RC=5
```

Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SET =

Use the = option to insert the specified string into the equal (=) buffer. (See the = subcommand.)

The format of the SET = subcommand is:

SET	= string

where:

`string`
is any XEDIT subcommand or macro, except for the = subcommand (or any CP or CMS command, if SET IMPCMSCP is in effect).

Error Message:

```
545E MISSING OPERAND(S),RC=5
```

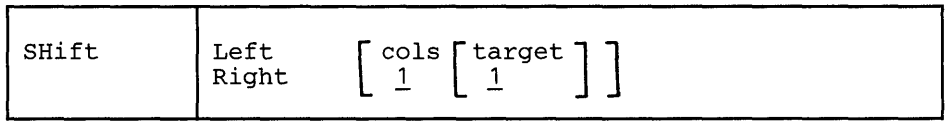
Return Codes:

0 Normal
5 Missing operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SHIFT

Use the SHIFT subcommand to move data to the right or to the left. Data loss is possible.

The format of the SHIFT subcommand is:



where:

`Left`
shifts data to the left. Data shifted to the left past the zone1 column is lost. The line is padded with blanks to the right, up through the truncation column.

`Right`
shifts data to the right. Shifted data that extends past the truncation column may be lost (See usage note 2, below). The line is padded to the left with blanks.

`cols`
is the number of columns the data is to be shifted.

`target`
defines the number of lines to be shifted, starting with the current line, up to but not including the target line. If you omit target, only the current line is shifted.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Notes:

1. The SHIFT subcommand should not be confused with LEFT, RIGHT, and SET VERIFY, which move the screen over the data, causing the data to *appear* to move in the opposite direction, and do not cause data loss.

2. If SET SPILL OFF is in effect (the default), characters that have been shifted beyond the truncation column are truncated. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been shifted beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column. SET SPILL affects only SHIFT issued with the RIGHT operand. SET SPILL has no effect on SHIFT LEFT; data shifted to the left past zone1 is lost.

Responses:

If you specify that a SHIFT is to occur on multiple lines and it does occur, the current line pointer will be

a. Unchanged, if SET STAY ON has been issued

b. Moved to the last line shifted, if SET STAY OFF is in effect (the default).

The column pointer is not affected by SHIFT.

Error Messages:

```
504E nn LINE(S) {TRUNCATED|SPILLED},RC=3
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx, RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=4
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
1 TOF or EOF reached during execution
2 Target line not found
3 Truncated or spilled
4 No lines changed
5 Invalid operands
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

SORT (Macro)

Use the SORT macro to arrange a specified number of file lines in ascending or descending EBCDIC order according to specified sort columns.

The format of the SORT macro is:

SORT	target [A|D] col1 col2 [col1 col2]...

where:

`target`
specifies the number of lines to be sorted. Lines are sorted starting with the current line, up to but not including the target line. (If you specify an asterisk (*), lines are sorted starting with the current line to the end of the file.)

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

`A`
sorts the file in ascending EBCDIC order. This is the default.

`D`
sorts the file in descending EBCDIC order.

`col1 col2`
is a pair of numbers that define a sort field. Col1 is the starting column of a sort field within each line. Col2 is the ending column. You can specify as many sort fields as you want, as long as the total length of the fields does not exceed 255.

Usage Notes:

1. If SET CASE UPPERCASE/MIXED RESPECT has been issued, sorting is done in EBCDIC order.

2. If SET CASE UPPERCASE/MIXED IGNORE has been issued, sorting is done in alphabetical order, with lowercase and uppercase representations of the same letter considered to be identical.

3. SORT operates outside of the current SCOPE. (See Appendix B for more information about SORT and the SCOPE setting.)

4. SORT cannot be issued when prefix subcommands or macros are pending and it cannot be issued from a prefix macro.

Error Messages:

```
009E COLUMN EXCEEDS RECORD LENGTH,RC=24
053E INVALID SORT FIELD PAIR DEFINED,RC=24
063E NO SORT LIST GIVEN,RC=40
493E SORT INVALID IN UPDATE MODE,RC=3
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
546E TARGET NOT FOUND,RC=2
588E PREFIX SUBCOMMAND WAITING...,RC=8
698E TARGET STRING TOO LONG, UNABLE TO PARSE
     THE ENTIRE TARGET STRING, RC=5
```

Return Codes:

0	Normal
1	TOF or EOF reached during execution
2	Target line not found
3	SORT can not be used when a file is edited in UPDATE mode
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
8	Prefix area contains pending subcommand or macro
24	Invalid columns defined
40	No list given

Examples:

```
SORT * 17 24 8 16
```

sorts a CMS EXEC file by filetype (columns 17 through 24) and, within each filetype, by filename (columns 8 through 16).

SOS

The SOS (screen operation simulation) subcommand provides a set of functions to be used mainly in XEDIT macros or to be assigned to PF keys.

The format of the SOS subcommand is:

SOS	option Options: ALarm POP CLEAR PUsh LINEAdd TABB [n|1] LINEDel TABCmd NUlls TABCMDB [n|1] NUlls ON TABCMDF [n|1] NUlls OFF TABF [n|1] PFn

where:

ALarm
: Ring the terminal alarm the next time the display is refreshed.

CLEAR
: Clears the screen.

LINEAdd
: Add a blank line after the line pointed to by the cursor. This is the initial setting of the PF2 key.

LINEDel
: Delete the line pointed to by the cursor.

NUlls
: Reverse the current setting of the "nulls" option for the line pointed to by the cursor.

NUlls ON
: Change the trailing blanks to "nulls" for the line pointed to by the cursor.

NUlls OFF
: Change the trailing "nulls" to blanks for the line pointed to by the cursor.

PFn
: Depress a PF key where n is the key number 1-24. The data which had been assigned to the key is placed LIFO in the CMS console stack.

POP
: Remove the top position from the cursor stack and place the cursor there. (See PUSH, below.) If the cursor is outside any logical screen, it is positioned in the upper left corner of the first logical screen.

PUsh
: Save the current position of the cursor. The position is saved in a LIFO fashion in a five-position stack used only for this purpose.

TABB [n|1]
: Move the cursor backward to the previous "tab" position as indicated by the XEDIT subcommand, SET TABS. The "tab" operation may be performed n times with one (1) being the default.

TABCmd
: Position the cursor at the command line for the logical screen in which it currently resides.

TABCMDB [n|1]
: Move the cursor backward to the first encountered command line. When multiple logical screens are defined, moves the cursor to the command line of the previous logical screen.

TABCMDF [n|1]
: Move the cursor forward to the first encountered command line. When multiple logical screens are defined, moves the cursor to the command line of the next logical screen.

TABF [n|1]
: Move the cursor forward to the next "tab" position as indicated by the XEDIT subcommand, SET TABS. The "tab" operation may be performed n times with one (1) being the default.

Usage Note:

When the prefix is set on the left and the cursor is placed in the attribute byte following the line, TABF moves the cursor to the first tab column in the same line and TABB moves the cursor to the last tab column of the preceding line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
545E MISSING OPERAND(S),RC=5
561E CURSOR IS NOT ON A VALID DATA FIELD.,RC=3
```

Return Codes:

0 Normal
3 Invalid placement of cursor or subcommand
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

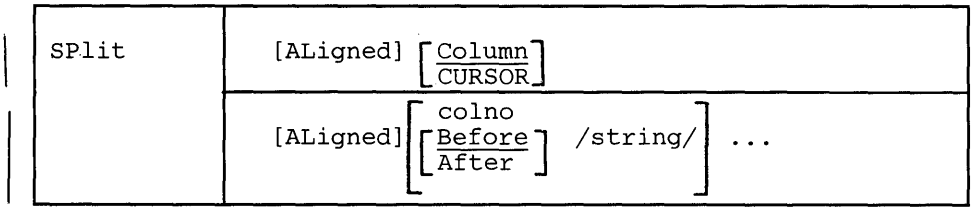
SPLIT (Macro)

Use the SPLIT macro to split a line into two or more lines.

The first format allows you to split a line into two lines, at the column pointer or at the cursor.

The second format allows you to split a line into several lines.

The format of the SPLIT macro is:



where:

ALigned
: gives the created line the same number of leading blanks as the original line.

Column
: splits the current line into two lines. The second line starts with the data in the current column (as defined by the column pointer). The line pointer and column pointer remain unchanged. If SPLIT is entered without an operand, SPLIT COLUMN is the default.

CURSOR
: splits the line containing the cursor into two lines. The second line starts with the character under which the cursor was positioned. The cursor is not moved. This format of the SPLIT macro is especially useful when assigned to a PF key.

colno
: specifies that the current line is to be split at the specified column number(s). The line is split as many times as there are operands.

Before
: splits the current line *before* a specified character string. This is the default.

After
: splits the current line *after* a specified character string.

/string/
: splits the current line before or after the specified character string. The line is split as many times as there are operands.

Usage Notes:

1. The SPLIT macro searches for strings in the current line with VARBLANK, SPAN, and STREAM all set to OFF (and restored after the SPLIT).

2. SPLIT is the converse of JOIN. (See also SPLTJOIN, which combines the functions of SPLIT and JOIN.)

3. The cursor or the column number or string specified must fall within the current zones.

Responses:

If the current line is split, the last line added becomes the new current line. If SPLIT CURSOR is issued, the line pointer remains unchanged.

If a specified string is not found, an error message is issued and the current line remains the same.

Error Messages:

```
526E OPTION 'CURSOR' VALID IN DISPLAY MODE ONLY,RC=3
557E NO MORE STORAGE TO INSERT LINES,RC=4
561E CURSOR IS NOT ON A VALID DATA FIELD,RC=3
575E INVALID SPLIT COLUMNS DEFINED,RC=5
585E NO LINE(S) CHANGED,RC=1
586E NOT FOUND,RC=2
```

Return Codes:

0 Normal
1 No change (SPLIT issued at TOF or EOF)
2 Not found
3 Invalid placement of cursor or subcommand
4 No more storage
5 Invalid operands
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Current Line:

```
===== Electric eels can discharge bursts of 625 volts.
```

Note the cursor position above. Press a PF key assigned to SPLIT CURSOR.

```
===== Electric eels can discharge _
===== bursts of 625 volts.
```

Current Line:

```
===== Electric eels can discharge bursts of 625 volts.
```

```
SP  29
```
(First line contains columns 1 through 28.)

```
===== Electric eels can discharge
===== bursts of 625 volts.
```

Current Line:

```
=====     Electric eels can discharge bursts of 625 volts.
```

```
SP ALIGNED 23
```
(Split at column 23, but line up with first line.)

```
=====     Electric eels can
=====     discharge bursts of 625 volts.
```

Current Line:

```
===== Electric eels can discharge bursts of 625 volts.
```

```
SP  A/discharge /
```
(Split the line after "discharge ".)

```
===== Electric eels can discharge
===== bursts of 625 volts.
```

Current Line:

```
===== Electric eels can discharge bursts of 625 volts.
```

```
SP  15  B/bursts/
```
(Split the line into three lines.)

```
===== Electric eels
===== can discharge
===== bursts of 625 volts.
```

The new current line is the last one that was added as a result of the split.

SPLTJOIN (Macro)

Use the SPLTJOIN macro either to split a line or join two lines, depending on the position of the cursor on a file line. If the cursor is positioned before or at the last non-blank character, the line is split (at the cursor position). If the cursor is positioned after the last non-blank character on a line (that is, after the end of the data on a line), the next line is appended, starting at the cursor position.

The format of the SPLTJOIN macro is:

SPLTJOIN	

Usage Notes:

1. The SPLTJOIN macro is most useful when assigned to a PF key. The PF11 key is initially set to SPLTJOIN.

2. SPLTJOIN enables display terminal users to combine the functions of SPLIT CURSOR and JOIN CURSOR (see SPLIT and JOIN) on a single PF key. Unlike JOIN CURSOR, it prevents the accidental loss of data caused by joining two lines and overlaying data.

3. SPLTJOIN functions like SPLIT and JOIN issued with the ALIGNED operand, that is, it "takes care of" leading blanks. If a line is split, it adds the same number of leading blanks to the beginning of the new line as the original line has. If two lines are joined, it removes the same number of leading blanks from the line being joined as there are on the line to which it is appended.

4. The cursor must lie with the current zones.

5. If SET SPILL ON or SET SPILL WORD has been issued, characters that have been pushed beyond the truncation column are inserted in the file as one or more new lines, starting with the first character or word that would have gone beyond the truncation column. For the SPLTJOIN macro, SET SPILL OFF (the default) has the same effect as SET SPILL ON. SPLTJOIN does not truncate data.

6. If two lines are joined, the original line appended as a result of the join is deleted. (The line pointer remains unchanged.)

Responses:

A line added due to a split becomes the new current line.

Error Messages:

```
503E SPILLED,RC=3
520E INVALID OPERAND : operand,RC=5
529E SPLTJOIN IS ONLY VALID IN DISPLAY MODE,RC=3
557E NO MORE STORAGE TO INSERT LINES,RC=4
561E CURSOR IS NOT ON A VALID DATA FIELD,RC=3
585E NO LINE(S) CHANGED,RC=1
```

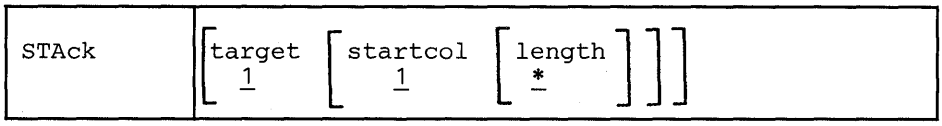
Return Codes:

0	Normal
1	No change (SPLTJOIN issued at TOF or EOF)
3	Spill occurred; invalid placement of cursor or subcommand
4	No more storage
5	Invalid operand
6	Subcommand rejected in the PROFILE due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

STACK

Use the STACK subcommand to place part or all of a specified number of lines (FIFO) in the console stack, starting with the current line. This subcommand is designed to be issued from a macro.

The format of the STACK subcommand is:



where:

`target`
: defines the number of lines to be stacked. Lines are stacked starting with the current line, up to but not including the target line. If you specify an asterisk (*), the rest of the file is stacked. If you omit target, only the current line is stacked.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

`startcol`
: specifies that lines are to be stacked starting in this column number. If you omit startcol, the line is stacked starting at the first column.

`length`
: specifies the number of columns that are to be stacked, starting with startcol. If you omit the length, the line is stacked up to the truncation column.

Notes for Macro Writers:

1. STACK 1 1 0 stacks an empty line. STACK 0 also stacks an empty line.
2. The CMS console stack restricts the length to be stacked to 255 bytes. To retrieve information about lines that are longer than 255 bytes, use EXTRACT/CURLINE/ in a System Product Interpreter macro.
3. The line pointer is moved to the last line stacked.
4. If a backward target is specified, for example, -3, the lines are stacked in reverse order.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE TO
     PARSE THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
1 TOF or EOF reached during execution
2 Target line not found
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

STATUS (Macro)

Use the STATUS macro to display the SET subcommand options and their current settings, or to create an XEDIT macro that contains the SET subcommand options listed under Usage Note 2.

The format of the STATUS macro is:

STATus	[filename]

where:

`filename`
specifies the name of a file that is to contain all the SET subcommand options listed in usage note 2.

The editor assigns a filetype of XEDIT; therefore, the file is an XEDIT macro. The macro can be invoked later to restore the SET subcommand options that were in effect when the STATUS macro was issued.

Usage Notes:

1. Use the STATUS macro without an operand to display the SET subcommand options and their current settings. All SET subcommand options are displayed except:

```
ALT         POINT
ENTER       RESERVED
LASTLORC    SELECT
PA          SIDCODE
PENDING     TRANSLAT
PF          =
```

2. When you use the STATUS macro to create an XEDIT macro, you can later invoke the macro to restore the SET subcommand options that were in effect when the STATUS macro was issued.

   For example:

   ```
   STATUS KEEP
   ```

   KEEP is the name of the macro.

Settings of the following subcommands are included in the macro:

```
APL          FNAME        NULLS        SPILL
ARBCHAR      FTYPE        NUMBER       STAY
AUTOSAVE     FULLREAD     PACK         STREAM
CASE         HEX          PREFIX       SYNONYM
CMDLINE      IMAGE        RANGE        TABLINE
COLOR        IMPCMSCP     RECFM        TABS
COLPTR       LINEND       REMOTE       TEXT
CTLCHAR      LRECL        SCALE        TOFEOF
CURLINE      MACRO        SCOPE        TRUNC
DISPLAY      MASK         SCREEN       VARBLANK
ESCAPE       MSGLINE      SERIAL       VERIFY
FILLER       MSGMODE      SHADOW       WRAP
FMODE        NONDISP      SPAN         ZONE
```

Responses:

```
703I FILE 'filename XEDIT A1' CREATED.
```

Error Messages:

```
024E FILE 'filename XEDIT A' ALREADY EXISTS,RC=28
520E INVALID OPERAND : operand,RC=5
671E ERROR CREATING FILE 'fn XEDIT A',
     RC = xx FROM 'EXECIO',RC=100
```

Return Codes:

- 0 Normal
- 5 Invalid operand
- 6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
- 28 Filename specified already exists
- 100 Error occurred while creating the file

TOP

Use the TOP subcommand to move the line pointer to the null line above the first line of the file or of the range (see the SET RANGE subcommand).

The format of the TOP subcommand is:

TOP	

Usage Note:

TOP is the proper subcommand to use before a subcommand that searches for the first occurrence of a string in a file (such as LOCATE, FIND, etc.). If the current line is the first line of the file, a string occurring in this line would be missed, because LOCATE, FIND, etc. start searching with the line *following* the current line.

Responses:

The null line at the top of the file becomes the new current line and contains:

```
* * * TOP OF FILE * * *
```

The lines preceding the current line are blank, and the rest of the screen contains the beginning lines of the file.

Error Message:

```
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

1 Top of file reached
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

TRANSFER

The TRANSFER subcommand is used *within a macro* to access specified editing variables, for example, the current line number, the filename of the file being edited, etc. The values that are transferred are placed in the console stack and can be read by subsequent EXEC 2 &READ control statements. More than one keyword can be specified in one TRANSFER subcommand.

Only VM/SP Release 1 and Release 2 settings can be transferred. For example, *TRANSFER CTLCHAR char* does not transfer *color* and *exthi* attributes introduced in Release 3. The EXTRACT subcommand returns *all* settings and provides greater flexibility.

The format of the TRANSFER subcommand is:

TRAnsfer	APL	PFn
	ARBchar	Point
	AUtosave	PREfix
	CASE	RANge
	CMDline	RECFm
	COLPtr	RESERved
	COLumn	SCALe
	CTLchar [char]	SCReen
	CURLine	Seq8
	CURSor	SERial
	EOF	SIDcode
	ESCape	SIZe
	FILler	SPAN
	FMode	STAY
	FName	STReam
	FType	SYNonym [name]
	HEX	TABLine
	IMage	TABS
	IMPcmscp	TARGet
	LASTmsg	TERMinal
	LENgth	TEXT
	LIne	TOF
	LINENd	TOFEOF
	LRecl	TRunc
	LScreen	UPDate
	MACRO	VARblank
	MASK	Verify
	MSGMode	VERShift
	NBFile	Width
	NONDisp	WRap
	NULls	Zone
	NUMber	=
	PACK	

where:

APL
: transfers "ON" or "OFF" as defined by the SET APL subcommand.

ARBchar
: transfers "ON" or "OFF" and the arbitrary character specified in the SET ARBCHAR subcommand.

AUtosave
: transfers the current AUTOSAVE setting: the AUTOSAVE count, fileid, and number of alterations.

CASE
: transfers two values: the case setting ("U" or "M") and "R" or "I" as defined in the SET CASE subcommand.

CMDline
: transfers an integer (n), which is the screen command line number defined by the SET CMDLINE subcommand. If SET CMDLINE TOP, n=2. If SET CMDLINE ON, the number is the logical screen size minus one. If SET CMDLINE BOTTOM, n is the number of the last line on the logical screen. If SET CMDLINE OFF, n=0.

COLPtr
: transfers "ON" or "OFF" as defined by the SET COLPTR subcommand.

COLumn
: transfers the column number of the column pointer.

CTLchar [char]
: If no character is specified (TRA CTLCHAR), transfers the control character identifier and all characters defined by the SET CTLCHAR subcommand, in the form "CTLCHAR ON ESCAPE char CTL c1 c2 c3 c4...." If no control characters are defined, transfers "CTLCHAR OFF."

  If a character is specified (TRA CTLCHAR char), the attributes of that character are transferred, in the form "CTLCHAR char attribute1 attribute2." If no attributes were defined for the character, transfers "CTLCHAR."

  If the TRANSFER subcommand specifies multiple operands, the operand that follows CTLCHAR is interpreted as follows: if it is one character in length, it is interpreted as the "char" operand of CTLCHAR; if it is longer than one character or is not specified, it is handled normally.

  For example:

```
TRANSFER FN FT FM CTLCHAR LRECL RECFM
```

  CTLCHAR is treated as if it were specified without the "char" operand. LRECL and RECFM are handled normally.

```
TRANSFER CTLCHAR ¢ CTLCHAR " CTLCHAR % LRECL RECFM
```

  transfers the attributes of ¢, ", and %.

CURLine
: transfers the line number of the current line relative to the top of the screen, as defined by the SET CURLINE subcommand.

CURSor
: transfers four integers: the position of the cursor on the screen (line number and column number) and the position of the cursor in the file (line number and column number). If the cursor is in a protected area, two negative numbers (-1) are transferred for the position of the cursor in the file.

EOF
: transfers "ON" or "OFF" as determined by the editor. EOF is "ON" when the line pointer reaches end of file.

ESCape
: transfers "ON" or "OFF" and the escape character (one-character string) defined by the SET ESCAPE subcommand. This character may be blank.

FILler
: transfers the filler character (one-character string) defined by the SET FILLER subcommand. This character may be blank.

FMode
: transfers the two-character filemode.

FName
: transfers the eight-character filename.

FType
: transfers the eight-character filetype.

HEX
: transfers "ON" or "OFF" as specified in the SET HEX subcommand.

IMage
: transfers "ON," "OFF," or "CANON" as specified in the SET IMAGE subcommand.

IMPcmscp
: transfers "ON" or "OFF" as specified in the SET IMPCMSCP subcommand.

LASTmsg
: transfers the last message issued by the editor. This message may or may not have been displayed, depending on the SET MSGMODE subcommand operands.

LENgth
: transfers the length of the current line from column one through the truncation column, excluding trailing blanks.

LIne
: transfers the current line number, relative to the beginning of the file.

LINENd
: transfers "ON" or "OFF" and the line end character as defined by the SET LINEND subcommand.

LRecl
: transfers the logical record length.

LScreen
: transfers six integers: the number of lines and the number of columns of the logical screen; the line number and column number defining the top left corner of the logical screen on the physical screen; the number of lines and number of columns of the physical screen.

MACRO
: transfers "ON" or "OFF" as specified by the SET MACRO subcommand.

`MASK`
transfers the current mask line as defined by the SET MASK subcommand. The line may be all blanks.

`MSGMode`
transfers "ON" or "OFF" and "LONG" or "SHORT" as defined by the SET MSGMODE subcommand.

`NBFile`
transfers the number of files being edited.

`NONDisp`
transfers the character defined by the SET NONDISP subcommand. The character may be blank.

`NULls`
transfers "ON" or "OFF" as specified by the SET NULLS subcommand.

`NUMber`
transfers "ON" or "OFF" as specified by the SET NUMBER subcommand.

`PACK`
transfers "ON" or "OFF" as specified by the SET PACK subcommand.

`PFn`
transfers the string associated with a specified PF key, as defined by SET PFn. The string may be null or blank.

`Point`
transfers the symbolic name associated with the current line, as defined by the SET POINT subcommand or the .xxxx prefix subcommand, or transfers a blank string if no name has been defined.

`PREfix`
transfers "ON," "OFF," or "NULLS" and "RIGHT" or "LEFT" as specified in the SET PREFIX subcommand.

`RANge`
transfers two integers, which are the line numbers of the top and bottom of the range defined by the SET RANGE subcommand.

`RECFm`
transfers the record format, "F," "V," "FP," or "VP," defined by the SET RECFM subcommand.

`RESERved`
transfers as one line, the line numbers of reserved lines.

`SCALe`
transfers "ON" or "OFF" and the scale line number as specified in the SET SCALE subcommand.

`SCReen`
transfers "SIZE n1 n2...," where n1 is the number of lines in the first logical screen, n2 is the number of lines in the second logical screen, etc., as defined by the SET SCREEN subcommand.

Seq8
: transfers "OFF" if the XEDIT command was issued with the NOSEQ8 operand; if not, transfers "ON."

SERial
: transfers the serial identification or "OFF," the increment value, and the serial number starting value as defined by the SET SERIAL subcommand.

SIDcode
: transfers the eight-character string specified in the SIDCODE option of the XEDIT command (or subcommand) or the LOAD subcommand.

SIZe
: transfers the number of records in the file being edited.

SPAN
: transfers three values: "ON" or "OFF," "B" or "N," and n, as defined in the SET SPAN subcommand.

STAY
: transfers "ON" or "OFF" as specified in the SET STAY subcommand.

STReam
: transfers "ON" or "OFF" as specified in the SET STREAM subcommand.

SYNonym [*name*]
: TRANSFER SYNONYM transfers "ON" or "OFF" as specified in the SET SYNONYM subcommand. TRANSFER SYNONYM *name* transfers the name, its minimum abbreviation, and the associated synonym definition (that is, everything that was entered in the SET SYNONYM subcommand after the minimum abbreviation size).

  Note: In a TRANSFER subcommand with multiple keyword operands, SYNONYM must be the last one; otherwise, the keyword following SYNONYM would be interpreted as its operand and not as an independent keyword.

TABLine
: transfers "ON" or "OFF" and n, as defined in the SET TABLINE subcommand.

TABS
: transfers the tab column numbers defined by the SET TABS subcommand.

TARGet
: transfers two pairs of integers pertaining to the character string that matches the last target located: line and column number of the first character in the string; line and column number of the last character in the string.

TERMinal
: transfers "DISPLAY" or "TYPEWRITER" as defined in the SET TERMINAL subcommand.

TEXT
: transfers "ON" or "OFF" as specified in the SET TEXT subcommand.

`TOF`
transfers "ON" or "OFF" as determined by the editor. TOF is "ON" when the current line pointer reaches the top of file.

`TOFEOF`
transfers "ON" or "OFF" as specified in the SET TOFEOF subcommand.

`TRunc`
transfers the truncation column number as defined by the SET TRUNC subcommand.

`UPDate`
transfers "ON" or "OFF" as determined by the editor. Update is "ON" when the XEDIT command has been issued with the UPDATE or CTL operands.

`VARblank`
transfers "ON" or "OFF" as specified in the SET VARBLANK subcommand.

`Verify`
transfers the verification columns specified in the SET VERIFY subcommand.

`VERShift`
transfers +n or -n, which is the relative position of the screen over the file, as a result of any LEFT, RIGHT, or SET VERIFY subcommands.

`Width`
transfers the WIDTH value as specified in the XEDIT command or LOAD subcommand or as determined by the editor.

`WRap`
transfers "ON" or "OFF" as specified in the SET WRAP subcommand.

`Zone`
transfers the left and right zone column numbers specified in the SET ZONE subcommand.

`=`
transfers one line (up to 130 characters) that corresponds to the content of the "equal (=) buffer." The equal buffer contains the last executed subcommand or macro, or whatever has been specified in the SET = subcommand.

Notes for Macro Writers:

1. Several values can be transferred in one TRANSFER subcommand. For example:

   ```
   TRANSFER LINE SIZE TRUNC
   ```

   The values can then be read by the macro. For example:

   ```
   &READ VARS &LINE &SIZE &TRUNC
   ```

   The variables in the macro will now contain the current line number, the size of the file, and the truncation column, respectively.

2. Remember that some TRANSFER keywords are associated with a *set* of values (like CURSOR and TABS), or a character that may be blank (like ESCAPE), or a text line of varying length (like LASTMSG). When using TRANSFER with one of these keywords, it may be preferable *not* to specify multiple keywords in one TRANSFER and to make proper use of the &READ VARS, &READ ARGS, or &READ STRING control statements.

Error Message:

```
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0	Normal
5	Missing operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

TYPE

Use the TYPE subcommand to display a specified number of lines, starting with the current line.

The format of the TYPE subcommand is:

Type	[target|1]

where:

target
: defines the number of lines to be displayed. Lines are displayed starting with the current line, up to but not including the target line. If you omit target, only the current line is displayed.

  A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Notes:

1. TYPE displays a line according to the current SET VERIFY subcommand.
2. TYPE displays the first 160 characters for each line in the message area. If the output has to be displayed on a cleared screen, CMS will display only 130 characters per line.
3. If SET SHADOW ON and SET SCOPE DISPLAY are in effect, any shadow lines within the lines being typed are also displayed:

   ```
   ---------- nn line(s) not displayed ----------
   ```

   However, shadow lines are not included in the count of lines to be typed.

Responses:

The specified lines are displayed.

The line pointer moves to the last line typed.

If the line pointer has moved to the null END OF FILE line, the last line displayed will be:

```
583I   EOF:
```

If the current line is the null TOP OF FILE and you issue the TYPE subcommand, the first line displayed will be:

```
584I   TOF:
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
698E TARGET STRING TOO LONG, UNABLE TO
     PARSE THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0 Normal
1 TOF or EOF reached
2 Target line not found
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

UP

Use the UP subcommand to move the line pointer a specified number of lines toward the top of the file.

The format of the UP subcommand is:

Up	[n|*|1]

where:

n
: is the number of lines the line pointer is to be moved toward the top of the file. If you specify an asterisk (*), the line pointer moves to the "TOP OF FILE" line. If a number is not specified, the pointer is moved up only one line.

Usage Note:

The UP subcommand is equivalent to a minus (-) target. For example:

```
UP 3
```

is equivalent to

```
-3
```

Response:

The line pointed to becomes the new current line.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
```

Return Codes:

0 Normal
1 Top of File reached and displayed.
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

Figure 3-15 is a before-and-after example of the UP subcommand.

```
 PURIST   SCRIPT   A1  V 132  TRUNC=132 SIZE=12 LINE=8 COL=1 ALT=0

===== * * * TOP OF FILE * * *
===== "THE PURIST"
=====
===== I GIVE YOU NOW PROFESSOR TWIST.
===== A CONSCIENTIOUS SCIENTIST.
===== TRUSTEES EXCLAIMED, "HE NEVER BUNGLES!"
===== AND SENT HIM OFF TO DISTANT JUNGLES.
===== CAMPED ON A TROPIC RIVERSIDE,
===== ONE DAY HE MISSED HIS LOVING BRIDE.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== SHE HAD, THE GUIDE INFORMED HIM LATER,
===== BEEN EATEN BY AN ALLIGATOR.
===== PROFESSOR TWIST COULD NOT BUT SMILE.
===== "YOU MEAN," HE SAID, "A CROCODILE."
===== * * * END OF FILE * * *


====> UP 5
                                                        X E D I T 1 FILE
```

```
 PURIST   SCRIPT   A1  V 132  TRUNC=132 SIZE=12 LINE=3 COL=1 ALT=0




===== * * * TOP OF FILE * * *
===== "THE PURIST"
=====
===== I GIVE YOU NOW PROFESSOR TWIST.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== A CONSCIENTIOUS SCIENTIST.
===== TRUSTEES EXCLAIMED, "HE NEVER BUNGLES!"
===== AND SENT HIM OFF TO DISTANT JUNGLES.
===== CAMPED ON A TROPIC RIVERSIDE,
===== ONE DAY HE MISSED HIS LOVING BRIDE.
===== SHE HAD, THE GUIDE INFORMED HIM LATER,
===== BEEN EATEN BY AN ALLIGATOR.
===== PROFESSOR TWIST COULD NOT BUT SMILE.
===== "YOU MEAN," HE SAID, "A CROCODILE."
===== * * * END OF FILE * * *
====>
                                                      X E D I T  1 FILE
```

Figure 3-15. The UP Subcommand - Before and After

UPPERCAS

Use the UPPERCAS subcommand to translate all lowercase characters to uppercase, starting at the current line, for a specified number of lines.

The format of the UPPERCAS subcommand is:

UPPercas	[target|1]

where:

`target`
defines the number of lines to be translated. Translation starts with the current line and continues up to, but does not include, the target line. If you specify an asterisk (*), the rest of the file is translated. If you omit target, only the current line is translated.

A target may be specified as an absolute line number, a relative displacement from the current line, a line name, or a string expression. For more information on targets, refer to the LOCATE subcommand in this book and to the publication *VM/SP System Product Editor User's Guide.*

Usage Note:

The case setting defined in the SET CASE subcommand is not changed by UPPERCAS.

Responses:

1. When you press the ENTER key, all lowercase letters within the current zones appear in uppercase.

2. If you specify that UPPERCAS is to occur on multiple lines and it does occur, the current line pointer will be:

   a. Unchanged if SET STAY ON has been issued.

   b. Moved to the last line translated if SET STAY OFF is in effect (the default).

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=4
698E TARGET STRING TOO LONG, UNABLE TO
     PARSE THE ENTIRE TARGET STRING,RC=5
```

Return Codes:

0	Normal
1	TOF or EOF reached during execution
2	Target line not found
4	No lines changed
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

Examples:

```
===== Elephant tusks can weigh up to 300 pounds.
```

`UPP` (translate the current line to uppercase)

```
===== ELEPHANT TUSKS CAN WEIGH UP TO 300 POUNDS.
```

XEDIT

Use the XEDIT subcommand to edit multiple files.

The format of the XEDIT subcommand is:

`Xedit`	`[fn[ft[fm]]] [(options...[)]]`

where:

`fn`
is the filename of a file to be brought into virtual storage. If the file is already in storage, no new copy is brought in.

`ft`
is the filetype of the above file.

`fm`
is the filemode of the above file. If you omit fm, * is assumed (all of the accessed disks are searched).

`options`
are the same as the options in the CMS command XEDIT. (See "Section 2: The XEDIT Command.")

Usage Notes:

1. The XEDIT subcommand allows you to edit independently multiple files in virtual storage.

   Each time the XEDIT subcommand is issued with a fileid, that file is brought into storage and becomes the current one.

   The files are placed in a "ring." Each time the XEDIT subcommand is issued without arguments, the next file in the ring appears on the screen as the current file. This arrangement allows you to switch from the first file to the second, the second to the third, etc., all the way around the ring and back to the first.

   A QUIT or FILE subcommand issued from a file causes the previous file in the ring to be displayed.

2. When the screen is divided into multiple logical screens (see the SET SCREEN subcommand), entering the XEDIT subcommand with the same fileid from two (or more) logical screens creates two (or more) independent views of the same file.

3. The fileid operands (fn ft fm) each may be specified with an equal (=) sign, in which case the value is the same as that in the current file.

4. If this subcommand is issued as "CMS XEDIT...," XEDIT will be called recursively instead (see "Section 2: The XEDIT Command," usage note 3.)

Error Messages:

```
002E FILE 'fn ft fm' NOT FOUND.,RC=28
003E INVALID OPTION 'option'.,RC=24
024E FILE 'XEDTEMP CMSUT1 A1' ALREADY EXISTS.,RC=28
029E INVALID PARAMETER 'parameter' IN THE
     OPTION 'option' FIELD.,RC=24
048E INVALID MODE 'mode'.,RC=24
054E INCOMPLETE FILEID SPECIFIED.,RC=24
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
065E 'option' OPTION SPECIFIED TWICE.,RC=24
066E 'option' AND 'option' ARE CONFLICTING OPTIONS.',RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
070E INVALID PARAMETER 'parameter'.,RC=24
229E UNSUPPORTED OS DATA SET.,RC=80,81,82,83
590E DATA SET TOO LARGE.,RC=88
104S ERROR 'nn' READING FILE 'fn ft fm' FROM DISK.,RC=100
132S FILE 'fn ft fm' TOO LARGE.,RC=88
```

Error Messages with UPDATE Options:

```
007E FILE 'fn ft fm' IS NOT FIXED, 80 CHAR. RECORDS.,RC=32
179E MISSING OR DUPLICATE 'MACS' CARD
     IN CONTROL FILE 'fn ft fm'.
183E INVALID [CONTROL/AUX] FILE CONTROL CARD.,RC=32
597E UNABLE TO MERGE UPDATES CONTAINING './ S' CARDS.,RC=32
174W SEQUENCE ERROR INTRODUCED
     IN OUTPUT FILE: '........' TO '........'. ',RC=32
184W './ S' NOT FIRST CARD IN UPDATE FILE -- IGNORED
185W NON NUMERIC CHARACTER IN SEQUENCE FIELD '........'.,RC=32
186W SEQUENCE NUMBER NOT FOUND:,RC=32
207W INVALID UPDATE FILE CONTROL CARD.,RC=32
210W INPUT FILE SEQUENCE ERROR '........' TO '........'.,RC=32
570W UPDATE 'updname' SPECIFIED IN THE 'UNTIL' OPTION FIELD NOT FOUN
```

Return Codes:

- 0 Normal
- 6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
- 20 Invalid character in filename or filetype
- 24 Invalid parameters, or options
- 28 Source file not found (UPDATE MODE) or the specified profile macro does not exist, or file XEDTEMP CMSUT1 already exists
- 32 Error during updating process
- 36 Corresponding disk not accessed
- 88 File is too large and does not fit into storage
- 100 Error reading the file into storage

& (Ampersand)

Use an ampersand (&) in column one of the command line before any subcommand to cause the subcommand to be redisplayed. Using an & allows you to re-execute the subcommand just by pressing the ENTER key.

The format of the & subcommand is:

&	[subcommand]

Usage Notes:

1. A synonym cannot be defined for &.
2. & will cause trailing blanks in the subcommand which follows it to be replaced with nulls.
3. You can clear the & [subcommand] on the command line by pressing the spacebar once and then pressing the ERASE EOF key. If you don't press the spacebar, the & [subcommand] will be displayed in the command line the next time you press the ENTER Key.

= (Equal Sign)

Use the = subcommand to re-execute the last subcommand or macro entered, or to execute a specified subcommand and *then* re-execute the last one entered.

The format of the = subcommand is:

=	[subcommand]

where:

subcommand
: is any XEDIT subcommand (or any CP or CMS command, if SET IMPCMSCP ON is in effect). It is executed *before* the previous subcommand is re-executed.

Usage Notes:

1. Multiple adjacent = subcommands (= = = =) in the command line will cause the last subcommand to be executed as many times as there are equal signs specified.

2. The last subcommand that is being re-executed can have been entered from the command input area on the terminal or from the console stack (via a macro).

3. The editor keeps a copy of the last subcommand or macro in an "equal buffer." The contents of this buffer may be:

   a. Displayed without being changed by using QUERY =

   b. Returned by using the EXTRACT subcommand (EXTRACT/=/)

   c. Specified by using SET = *string*, where string becomes the new content of the equal buffer.

4. The = subcommand may be renamed by using the SYNONYM subcommand.

5. The editor assigns the = subcommand (with no operand) to the PF9 key. When the = subcommand is assigned to a PF or PA key, the default is ONLY = (see SET PF, SET PA).

6. Entering the = subcommand in the format:

   = subcommand

   is useful if, for example, you enter a data line on a typewriter terminal while you are in command mode. Instead of switching to input mode and retyping the data line, you can use the following subcommand:

   ```
   = INPUT
   ```

? (Question Mark)

Use the ? subcommand in column one to display in the command area the last XEDIT subcommand executed, except for an = or ? subcommand.

The format of the ? subcommand is:

?	

Usage Notes:

1. The subcommand that is displayed as a result of a ? can be re-executed by pressing the ENTER key. You can also modify the command before re-entering it.

2. Successive execution of ? subcommands will display the previous subcommands. (The previous subcommands are maintained in a ring.)

3. A synonym cannot be defined for the ? subcommand.

4. The ? subcommand can be assigned to a PF or PA key. For example, the editor assigns the ? subcommand to the PF6 key and PA3 key (initial settings). When the ? subcommand is assigned to a PF or PA key, the default is ONLY ? (see SET PF, SET PA).

5. Anything following a ? is ignored except another ?. Multiple ?s can be specified to retrieve previous subcommands. For example, ??? displays the third previous subcommand.

Notes for Macro Writers:

The ? subcommand cannot be used in a macro.

Section 4. Prefix Subcommands and Macros

Prefix subcommands and macros are "line" subcommands and macros, which are entered by typing over the five-position prefix area. You can use the prefix subcommands and macros to:

- Insert and delete lines
- Copy, move, and duplicate lines
- Extend the length of a line
- Move the current line pointer
- Display the scale on a particular line
- Display the tab settings on a particular line
- Assign a symbolic name to a line
- Shift lines left or right
- Exclude lines from display
- Re-display (show) excluded lines.

The prefix subcommands and macros are:

A	Add (equivalent to I)
C	Copy
D	Delete
E	Extend
F	Following
I	Insert
M	Move
P	Preceding
S	Show excluded lines
SCALE	Display scale
TABL	Display tab line
X	Exclude lines
.xxxx	Assign symbolic name
<	Shift left
/	Set current line
>	Shift right
"	Duplicate

General Usage Notes:

1. Use the subcommands

   ```
   SET PREFIX ON RIGHT   or  SET PREFIX ON LEFT
   ```

   to display the five-position prefix area (=====).

   You can use SET PREFIX NULLS to display nulls in the prefix area.

2. Prefix subcommands and macros can be typed over any position of the five-character prefix area.

   For example:

   ```
   ====A (adds a line)
   a==== (adds a line)
   ==D== (deletes a line)
   5A=== (adds 5 lines)
   3 a== (adds 3 lines)
   ```

   are valid ways to enter prefix subcommands. You can type multiple prefix subcommands and macros before pressing the ENTER key.

3. The prefix area is decoded in the following manner:

   - The prefix area is scanned to determine what has been entered. The scan starts at the left, looking for the first character that is different from the original prefix. If it finds one, it then scans starting at the right (as long as some of the prefix area has not been scanned yet), looking for the right-most character that is different from the original prefix.
   - Any number is taken as an operand.
   - If the name starts with a letter, the name is decoded up to a non-alphabetic character.
   - If the name starts with a non-alphabetic character (a delimiter), the name is decoded up to a blank or an alphabetic character.
   - Whatever follows is taken as an operand.

   For example:

   ```
   PREFIX      NAME        OP1      OP2      OP3

   4a3 5       a            4        3        5
   $XXX        $          XXX
   >>5         >>           5
   5a>b        a            5        >b
   5>ab        >            5        ab
   ```

4. If line numbers are displayed in the prefix area (via the SET NUMBER ON subcommand), use prefix subcommands and macros carefully. Some numbers that you type in the prefix area may be ignored. Only the characters that you type over *and* that are different from the numbers in the prefix area are interpreted as the prefix subcommand or macro.

For example:

```
The prefix area contains          12345
You type "3a":                    123a5
The prefix subcommand is "a".

The prefix area contains          12345
You type "a4":                    1a445
The prefix subcommand is "a4".

If you typed "a44":               1a445
or if you typed "a445":           1a445
```

the editor would still interpret the prefix subcommand as being "a4," because the characters you type over must be different from the ones that are in the line number. If you want "a44" to be recognized in this situation, type "a44" followed by a blank.

5. When you are editing a file on multiple screens (multiple views of the same file) prefix subcommands and macros may be specified on all of the views.

6. If a prefix subcommand or macro is entered incorrectly, it is displayed in the prefix area, prefixed by a question mark (?). For example, if XX3 were entered (an invalid form of the X prefix macro), the prefix area would display ?XX3.

   If a prefix subcommand or macro causes a pending condition, or if the user entered an unknown prefix subcommand, the following pending notice is displayed in the status area:

   ```
   'value' pending
   ```

   where value is the name of the subcommand or macro that was entered.

   When XEDIT processes prefix subcommands and macros, it checks for syntax errors. If an error is found, the message is displayed in the screen it was entered in and the prefix subcommand is redisplayed, preceded by a ? in the screen in which it was entered. When the pending list is executed, if the prefix subcommand was entered on an invalid line, an error message will be displayed in the screen in which the pending list was executed and the prefix subcommand will be redisplayed on the line in which it was entered, preceded by a ?.

   Prefix macros are processed when the pending list is being executed. If an error is found in the prefix macro, the message will be displayed in the screen in which the pending list is executed. If the prefix macro indicates that the pending entry that was in error should be redisplayed (using SET PENDING ERROR), then that entry will appear in the same screen in which the error message appears.

7. The RESET subcommand (entered on the command line) can be used to cancel any pending prefix subcommands or macros, that is, prefix subcommands or macros that have caused a pending notice to be displayed in the status area.

   Prefix subcommands and macros are executed before any subcommands executed by pressing a PA/PF key, the ENTER key, or before any subcommands that may be typed in the command line, including RESET.

8. If you type a prefix subcommand or macro to delete, copy, or move a number of lines, and the number (n) you specify is greater than the number of lines left in the file, the number (n) is adjusted automatically to the number of lines left in the file.

9. The prefix subcommands and macros for a file are executed starting at the top of the file moving through to the end of the file. Block commands are executed when the end of the block is reached. Prefix subcommands or macros that cannot be executed or are not recognized are left pending. If the following prefix subcommands were entered, D would execute first, then M and F, followed by DD, which will be left pending because there is no matching entry. The numbers in parentheses indicate the order of processing.

```
MM   (2)
D    (1)
MM   (2)
DD   (3)
F    (2)
```

10. When multiple prefix subcommands and/or macros are issued, the cursor is positioned according to the one with the highest priority (see the CURSOR subcommand). The following is a list of the priorities associated with the prefix subcommands and macros (along with the priority assigned to changes on the screen and the ENTER key).

E	Priority = 60
A,I	Priority = 60
/	Priority = 50
"	Priority = 40
M	Priority = 30
C	Priority = 30
S	Priority = 30
X	Priority = 30
<,>	Priority = 30
ENTER key	Priority = 30
Screen change	Priority = 20
D	Priority = 10

See Page 3-46

For example, if both an A and a " prefix subcommand are typed and the ENTER key is pressed, the cursor is positioned on the screen where the new line was added by the A prefix subcommand (regardless of whether the " preceded or followed the A on the screen).

If M and F prefix subcommands and a > prefix macro are typed and the ENTER key is pressed, the cursor is positioned either on the moved line or on the shifted line, depending on which was specified first on the screen.

Notes for Macro Writers:

1. For information on writing prefix macros, see Chapter 7 in the *VM/SP System Product Editor User's Guide*. See also: SET/QUERY/EXTRACT PENDING and SET/QUERY/EXTRACT PREFIX in this book.

2. By using the CURSOR subcommand, user-written prefix macros can specify where the cursor is to be positioned as well as a priority for this cursor movement. The cursor is positioned at the location specified that has the highest priority when all pending prefix subcommands and macros are executed.

3. Synonyms can be assigned for prefix macros by using the SET PREFIX subcommand with the SYNONYM option. See Chapter 7 in the *VM/SP System Product Editor User's Guide* for examples of using the SET PREFIX subcommand to assign synonyms for prefix macros that you write. SET PREFIX subcommands used to assign synonyms can be entered in a user's PROFILE XEDIT file.

   The synonyms assigned to the XEDIT prefix macros are as follows:

```
Macro Synonym(s)          File Identifier

  X, XX                    PREFIXX XEDIT
  S                        PRFSHOW XEDIT
  <, >, >>, <<             PRFSHIFT XEDIT
```

A (ADD)

Use the A prefix subcommand to add one or more lines immediately following the line in which the A prefix subcommand is entered.

The format of the A prefix subcommand is:

```
A   - add one line
nA  - add n lines
An  - add n lines
```

Usage Note:

The A prefix subcommand is equivalent to the I prefix subcommand.

Responses:

By default, the prefix area on each line that is added is highlighted. For more information, refer to SET COLOR PENDING.

Each line that is added is pre-filled with the current mask (see SET MASK).

If SET IMAGE ON is in effect, the cursor is placed in the first tab column of the first line that was added. Otherwise, it is placed in column 1.

Error Messages:

```
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE
557S NO MORE STORAGE TO INSERT LINES
659E INVALID PREFIX SUBCOMMAND: xxxxx
```

Example:

Refer to the "Examples" section of the D prefix subcommand.

C (COPY)

Use the C prefix subcommand to copy one line, a specified number of lines, or a block of lines. The F (Following) or P (Preceding) prefix subcommands must be used to indicate the destination of the copied line(s).

The format of the C prefix subcommand is:

```
C  - copy line
Cn - copy n lines
nC - copy n lines
CC - copy block of lines
```

Usage Notes:

1. Whenever you enter a C prefix subcommand, you also must enter an F or a P prefix subcommand in the prefix area of another line to indicate the destination of the copied line(s). The destination line and the line(s) to be copied can be on different screen displays but must be within the same file.

2. To copy one line, enter the character C in the prefix area of the line.

3. To copy more than one line, enter C*n* or *n*C in the prefix area of the *first* line of *n* lines to be copied.

4. To copy a block of lines, enter CC in the prefix areas of both the *first* and *last* lines, which can be on different screens.

Responses:

The cursor is placed on the first line that was copied (at its new location) when that line is displayed on the resulting screen. If the first copied line was not displayed on the resulting screen, then the cursor will be positioned on the command line.

The notice

```
'C' pending...
```

is displayed in the status area until the required prefix subcommands have been entered, for example, when a C has been entered but an F or a P has not yet been entered. The "pending" status allows you to scroll through the file before entering, for example, the destination line.

When a CC has been entered on only one line of a block, the following message is displayed in the status area:

```
'CC' pending...
```

This "pending" status allows you to scroll through the file before completing the block.

Error Messages:

```
557S NO MORE STORAGE TO INSERT LINES
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH IT WAS
     ENTERED.
```

D (DELETE)

Use the D prefix subcommand to delete one line, a specified number of lines, or a block of lines.

The format of the D prefix subcommand is:

```
D   -  Delete one line
Dn  -  Delete n lines
nD  -  Delete n lines
DD  -  Delete block of lines
```

Usage Note:

To delete a block of lines, enter DD in the prefix areas of both the first and last lines of the block to be deleted. The beginning and end of the block can be on different screens but must be within the same file.

Responses:

When a DD has been entered on only one line of a block of lines to be deleted, the following notice is displayed in the status area:

```
'DD' pending...
```

This "pending" status allows you to scroll through the file before completing the block.

The cursor is placed on the command line. If you want the cursor to be positioned on the line following the last line deleted, you must change the priority of the ENTER (or PA/PF) key.

Error Messages:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
```

Examples: Figure 4-2 is a before-and-after example of the A and D prefix subcommands.

D

```
 ANIMALS  FACTS    A1  F 80  TRUNC=80 SIZE=14 LINE=9 COL=1 ALT=0

===== * * * TOP OF FILE * * *
D==== THE HIPPOPOTAMUS IS DISTANTLY RELATED TO THE PIG.
===== ELEPHANT TUSKS CAN WEIGH MORE THAN 300 POUNDS.
===== LAND CRABS FOUND IN CUBA CAN RUN FASTER THAN A DEER.
===== ELECTRIC EELS CAN DISCHARGE BURSTS OF 625 VOLTS,
=2a== 40 TIMES A SECOND.
===== THE ANCIENT ROMANS AND GREEKS BELIEVED THAT BEDBUGS HAD MEDICINAL
===== PROPERTIES WHEN TAKEN IN A DRAFT OF WATER OR WINE.
=DD== STURGEON IS THE LARGEST FRESHWATER FISH AND CAN WEIGH 2250 POUNDS.
===== ANTS HAVE FIVE DIFFERENT NOSES.  EACH ONE IS DESIGNED TO
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=DD== ACCOMPLISH A DIFFERENT TASK.
=A=== ALL OSTRICHES ARE POLYGAMOUS.
===== SNAKES LAY EGGS WITH NONBRITTLE SHELLS.
===== THE PLATYPUS HAS A DUCK BILL, OTTER FUR, WEBBED FEET, LAYS
===== EGGS, AND EATS ITS OWN WEIGHT IN WORMS EVERY DAY.
===== * * * END OF FILE * * *



====>                                                   X E D I T  1 FILE
```

```
 ANIMALS  FACTS    A1  F 80  TRUNC=80 SIZE=13 LINE=9 COL=1 ALT=1

* * * TOP OF FILE * * *
===== ELEPHANT TUSKS CAN WEIGH MORE THAN 300 POUNDS.
===== LAND CRABS FOUND IN CUBA CAN RUN FASTER THAN A DEER.
===== ELECTRIC EELS CAN DISCHARGE BURSTS OF 625 VOLTS,
===== 40 TIMES A SECOND.
=====
=====
===== THE ANCIENT ROMANS AND GREEKS BELIEVED THAT BEDBUGS HAD MEDICINAL
===== PROPERIES WHEN TAKEN IN A DRAFT OF WATER OR WINE.
===== ALL OSTRICHES ARE POLYGAMOUS.
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
=====
===== SNAKES LAY EGGS WITH NONBRITTLE SHELLS.
===== THE PLATYPUS HAS A DUCK BILL, OTTER FUR, WEBBED FEET, LAYS
===== EGGS, AND EATS ITS OWN WEIGHT IN WORMS EVERY DAY.
===== * * * END OF FILE * * *



====>                                                   X E D I T  1 FILE
```

Figure 4-1. Prefix Subcommands A and D - Before and After

E (EXTEND)

Use the E prefix subcommand to extend a logical line by one more physical line on the screen.

The format of the E prefix subcommand is:

```
E
```

Usage Notes:

1. After an E prefix subcommand is entered, the entire logical line, which now appears on two physical lines, is treated as one line. Shifting due to character deletion and insertion affects the entire logical line.

2. The entire logical line visible on the screen does not exceed the maximum value defined by the SET VERIFY subcommand.

3. A line cannot be extended on a vertical screen (see SET SCREEN in this book).

Responses:

The cursor is positioned following the last non-blank character.

Error Messages:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
```

F (FOLLOWING)

Use the F prefix subcommand to identify the line *after* which lines are to be copied or moved via the C or M prefix subcommands.

The format of the F prefix subcommand is:

```
F
```

Response:

The notice

```
'F' pending...
```

is displayed in the status area if an F prefix subcommand has been entered and an associated C or M prefix subcommand has not yet been entered. The "pending" status allows you to scroll through the file before entering a C or M prefix subcommand.

Error Message:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
```

Example:

See Figure 4-2 (the M prefix subcommand).

I (INSERT)

Use the I prefix subcommand to insert one or more lines immediately following the line in which the I prefix subcommand is entered.

The format of the I prefix subcommand is:

```
I   - Insert one line
nI  - Insert n lines
In  - Insert n lines
```

Usage Note:

The I prefix subcommand is identical to the A prefix subcommand.

Responses:

By default, the prefix area of each line that is inserted is highlighted. For more information, refer to SET COLOR PENDING.

Each line that is inserted is pre-filled with the current mask (see the SET MASK subcommand).

If SET IMAGE ON is in effect, the cursor is placed in the first tab column of the first line that was inserted. Otherwise, it is placed in column 1.

Error Messages:

```
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE
659E INVALID PREFIX SUBCOMMAND: xxxxx
557S NO MORE STORAGE TO INSERT LINES
```

M (MOVE)

Use the M prefix subcommand to move one line, a specified number of lines, or a block of lines from one location to another in the file. The original lines are deleted. The F (Following) or P (Preceding) subcommand must be used to indicate the destination of the lines that are moved.

The format of the M prefix subcommand is:

```
M   -  move one line
Mn  -  move n lines
nM  -  move n lines
MM  -  move block of lines
```

Usage Notes:

1. Whenever you enter an M prefix subcommand, you also must enter an F or a P prefix subcommand in the prefix area of another line to indicate the destination of the lines to be moved. The destination line and the line(s) to be moved can be on different screen displays but must be within the same file.

2. To move one line, enter the character M in the prefix area of the line.

3. To move more than one line, enter M*n* or *n*M in the prefix area of the *first* line of *n* lines to be moved.

4. To move a block of lines, enter MM on both the *first* and *last* lines, which can be on different screen displays but must be within the same file.

Responses:

The notice

```
'M' pending...
```

is displayed in the status area until the required prefix subcommands have been entered, for example, when an M has been entered but the F or P has not yet been entered. The "pending" status allows you to scroll through the file before you enter another prefix subcommand (the destination line, for example).

When an MM has been entered on only one line of a block, the following notice is displayed in the status area:

```
'MM' pending...
```

This "pending" status allows you to scroll through the file before completing the block.

After the move, the cursor is positioned on the first line that was moved when that line is displayed on the resulting screen. If the first line that was moved is not displayed on the resulting screen, then the cursor will be positioned on the command line.

Error Messages:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
557S NO MORE STORAGE TO INSERT LINES
```

Examples: Figure 4-2 is a before-and-after example of the M and F prefix subcommands.

```
 ANIMALS  FACTS    A1  V 132  TRUNC=132 SIZE=22 LINE=10 COL=1 ALT=0

===== CHAMELEONS, REPTILES THAT LIVE IN TREES, CHANGE THEIR COLOR WHEN
===== EMOTIONALLY AROUSED.
===== THE GUPPY IS NAMED AFTER THE REVEREND ROBERT GUPPY, WHO FOUND THE FISH
===== ON TRINIDAD IN 1866.
===== AN AFRICAN ANTELOPE CALLED THE SITATUNGA HAS THE RARE ABILITY TO
===== SLEEP UNDER WATER.
=mm== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
===== THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===mm HAS ON SHARKS.
===== A LIZARD OF CENTRAL AMERICA CALLED THE BASILISK CAN RUN
===== ACROSS WATER.
===== OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
===== LEARNING.
f==== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== A FISH CALLED THE NORTHERN SEA ROBIN MAKES NOISES LIKE A WET
===== FINGER DRAWN ACROSS AN INFLATED BALLOON.
===== STINGAREES, FISH FOUND IN AUSTRALIA, CAN WEIGH UP TO 800 POUNDS.
====>
                                                          X E D I T  1 FILE
```

```
 ANIMALS  FACTS    A1  V 132  TRUNC=132 SIZE=22 LINE=7 COL=1 ALT=1


===== * * * TOP OF FILE * * *
===== CHAMELEONS, REPTILES THAT LIVE IN TREES, CHANGE THEIR COLOR WHEN
===== EMOTIONALLY AROUSED.
===== THE GUPPY IS NAMED AFTER THE REVEREND ROBERT GUPPY, WHO FOUND THE FISH
===== ON TRINIDAD IN 1866.
===== AN AFRICAN ANTELOPE CALLED THE SITATUNGA HAS THE RARE ABILITY TO
===== SLEEP UNDER WATER.
===== A LIZARD OF CENTRAL AMERICA CALLED THE BASILISK CAN RUN
      |...+....1....+....2....+....3....+....4....+....5....+....6....+....7...
===== ACROSS WATER.
===== OCTOPI HAVE LARGE BRAINS AND SHOW CONSIDERABLE CAPACITY FOR
===== LEARNING.
===== THE LION ROARS TO ANNOUNCE POSSESSION OF A PROPERTY.
===== THE KILLER WHALE EATS DOLPHINS, PORPOISES, SEALS, PENGUINS, AND
===== SQUID.
===== ALTHOUGH PORCUPINE FISHES BLOW THEMSELVES UP AND ERECT THEIR SPINES,
===== THEY ARE SOMETIMES EATEN BY SHARKS.  NO ONE KNOWS WHAT EFFECT THIS
===== HAS ON THE SHARKS.
====>
                                                          X E D I T  1 FILE
```

Figure 4-2. Prefix Subcommands M and F - Before and After

P (PRECEDING)

Use the P prefix subcommand to identify the line *before* which lines are to be copied or moved via the C or M prefix subcommands.

The format of the P prefix subcommand is:

```
P
```

Response:

The notice

```
'P' pending...
```

is displayed in the status area if a P prefix subcommand has been entered and an associated C or M prefix subcommand has not yet been entered. The "pending" status allows you to scroll through the file before entering a C or M prefix subcommand.

Error Message:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
```

S (SHOW) Macro

Use the S prefix macro to redisplay one or more lines that were excluded by the X prefix macro, the ALL macro, or other selective line editing subcommands (SET SELECT or SET DISPLAY). The S prefix macro can be entered only in the prefix area of a shadow line (see SET SHADOW).

The format of the S prefix macro is:

```
S   - show all lines
S*  - show all lines
Sn  - show the first n lines
S+n - show the first n lines
nS  - show the first n lines
S-n - show the last n lines
```

Usage Notes:

1. When n or +n is specified, lines are redisplayed starting at the beginning of the group of excluded lines. When -n is specified, lines are redisplayed starting at the end of the group of excluded lines. (However, they are displayed in ascending order. For example, if lines 1 through 10 are excluded, S-2 redisplays lines 9 and 10, in that order.)

   If +n or -n is larger than the number of excluded lines in the group, n is automatically adjusted to display all of the excluded lines.

2. Redisplayed lines are included in the scope of regular editing subcommands.

3. The S prefix macro alters the selection level (see SET SELECT) of the redisplayed lines to the n2 value of SET DISPLAY n1[n2].

Note for Macro Writers:

The file identifier for the S prefix macro is PRFSHOW XEDIT.

Responses:

If all lines in a group of excluded lines are redisplayed, the shadow line disappears. If one or more lines remain excluded, the notice in the shadow line is adjusted accordingly. The cursor is placed on the first redisplayed line.

Error Messages:

```
646E 'PRFSHOW' MUST BE INVOKED FROM THE PREFIX AREA,RC=8
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
```

Return Codes:

6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring
8 Subcommand must be issued from prefix area

SCALE (DISPLAY SCALE)

Use the SCALE prefix subcommand to display the scale on the corresponding screen line.

The format of the SCALE prefix subcommand is:

```
SCALE
```

Usage Note:

The SCALE prefix subcommand has the same effect as the subcommand:

```
SET SCALE ON n
```

Responses:

```
The scale looks like this:

 <...+..|.1....+....2....+....3.>..+....4T...+....5....+....6....+....7...
 .      .                        .        .
 .      .                        .        .
 .      .column pointer          .        .
 .                               .        .truncation column
 .left zone                      .right zone
```

TABL (DISPLAY TAB LINE)

Use the TABL prefix subcommand to display a "T" in every tab column, according to the current tab settings (see SET TABS in this book), on the corresponding screen line.

The format of the TABL prefix subcommand is:

```
TABL
```

Usage Note:

The TABL prefix subcommand has the same effect as the subcommand:

```
SET TABLINE ON n
```

Responses:

The line displays a "T" in every tab column:

For example:

```
T     T     T     T     T     T     T     T     T
```

Error Message:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
```

X (EXCLUDE) Macro

Use the X prefix macro to exclude from the display either one line, a specified number of lines, or a block of lines. Lines excluded from the display are also excluded from the scope of editing subcommands (see SET SCOPE).

The format of the X prefix macro is:

```
X    - exclude one line from display
Xn   - exclude n lines from display
nX   - exclude n lines from display
XX   - exclude a block of lines from display
```

Usage Notes:

1. To exclude a block of lines, enter XX in the prefix area of both the first and last lines of the block, which can be on different screens but must be within the same file.

2. The lines excluded from display are also excluded from the scope of regular editing subcommands, unless you specify SET SCOPE ALL.

3. The X prefix macro alters the selection level of the lines excluded (see SET SELECT). Excluded lines are assigned a selection level that is one greater than the end of the display range (see SET DISPLAY). If you have entered SET DISPLAY n *, the X prefix macro has no effect. The X prefix macro does not alter the settings of SET SCOPE, SET SHADOW, or SET DISPLAY.

4. The lines excluded are replaced with a "shadow line" (see SET SHADOW), which indicates the number of lines excluded. If you do not want the shadow line displayed, issue SET SHADOW OFF.

5. If a block of lines to be excluded includes lines that were previously excluded (that is, these lines are nested within the block), these lines remain excluded. However, their selection level remains the same. The shadow line shows the total number of lines excluded.

Note for Macro Writers:

The X prefix macro is an example of how selective line editing subcommands (SET SELECT, SET DISPLAY, SET SCOPE, and SET SHADOW) can be used. The file identifier for the X prefix macro is PREFIXX XEDIT.

Responses:

When XX has been entered on only one line of a block of lines to be excluded and a key is pressed, the XX prefix macro is displayed highlighted in the prefix area, and the status area displays the following pending notice:

```
'XX' pending...
```

This "pending" status allows you to scroll through the file before completing the block.

The cursor is placed on the first line following the excluded line(s).

Error Messages:

```
646E 'PREFIXX' MUST BE INVOKED FROM THE PREFIX AREA,RC=8
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
686E SYNONYM 'name' NOT RECOGNIZED BY PREFIX MACRO 'PREFIXX'.
```

Return Codes:

6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

8 Subcommand must be issued from prefix area

.xxxx (SET SYMBOLIC NAME)

Use the .xxxx prefix subcommand to assign a symbolic name to a line. One or more names can be defined for a line using separate .xxxx subcommands. You can use a symbolic name to refer to the line in subsequent target operands of XEDIT subcommands.

The format of the .xxxx prefix subcommand is:

```
.xxxx
```

where:

`.xxxx`
is a symbolic name for the line. The name must begin with a period and be followed by from one to four alphanumeric characters. For example, .AAA.

Usage Notes:

1. The .xxxx prefix subcommand is the same as the SET POINT subcommand, except that .xxxx limits the name to four characters.

2. The .xxxx prefix subcommand makes it unnecessary for you to remember or to look up the line number. A line can be referenced by its name at any time during an editing session.

3. A symbolic name stays with a line for the entire editing session, even if the line number changes due to insertion or deletion of other lines. However, you can delete a symbolic name by using the SET POINT subcommand (SET POINT *.xxxx* OFF). You can also delete a symbolic name for one line by using .xxxx to assign that name to another line.

4. After a symbolic name is defined for a line, the name does *not* appear in the prefix area. You must keep track of symbolic names. The subcommand QUERY POINT * can be used to display all names and their line numbers currently defined for the file. The subcommand QUERY POINT can be used to display the name(s) of the current line.

Error Message:

```
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
```

< (SHIFT LEFT) Macro

Use the < prefix macro to shift one line or a block of lines one or more columns to the left.

The format of the < prefix macro is:

```
<   - shift one line one column to the left
<n  - shift one line n columns to the left
n<  - shift one line n columns to the left
<<  - shift a block of lines one column to the left
<<n - shift a block of lines n columns to the left
n<< - shift a block of lines n columns to the left
```

Usage Notes:

1. Data shifted to the left past column one is lost. The line is padded with blanks to the right, up through the truncation column. (The < prefix macro is comparable to the SHIFT subcommand issued with the LEFT operand.)

2. To shift a block of lines one column to the left, enter << in the prefix areas of both the first and last lines of the block. The beginning and end of the block can be on different screens but must be within the same file.

   To shift a block of lines n columns to the left, enter <<n or n<< in either the first or last line of the block, and << in the other. (If you enter a number on both the first and last lines of the block, the one closest to the end of file is used.)

Note for Macro Writers:

The file identifier for the < prefix macro is PRFSHIFT XEDIT.

Responses:

When << has been entered on only one line of a block of lines to be shifted and a key is pressed, the << prefix macro is displayed highlighted in the prefix area, and the status area displays the following pending notice:

```
'<<' pending...
```

This "pending" status allows you to scroll through the file before completing the block.

The cursor is placed on the first line shifted.

Error Messages:

```
646E 'PRFSHIFT' MUST BE INVOKED FROM THE PREFIX AREA,RC=8
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
686E SYNONYM 'name' NOT RECOGNIZED BY PREFIX MACRO 'PRFSHIFT'.
```

Return Codes:

6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

8 Subcommand must be issued from prefix area

/ (SET CURRENT LINE)

Use the / (diagonal) prefix subcommand to set the current line or to identify a line that will be the new current line after other prefix subcommands are executed and, optionally, to move the column pointer.

The format of the / prefix subcommand is:

```
/[n] or [n]/
```

where:

n
: is the column number in which the column pointer is to be placed.

Usage Note:

If several / prefix subcommands are typed on the screen, the last one will set the current line.

Error Messages:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
```

> (SHIFT RIGHT) Macro

Use the > prefix macro to shift one line or a block of lines one or more columns to the right.

The format of the > prefix macro is:

```
>   - shift one line one column to the right
>n  - shift one line n columns to the right
n>  - shift one line n columns to the right
>>  - shift a block of lines one column to the right
>>n - shift a block of lines n columns to the right
n>> - shift a block of lines n columns to the right
```

Usage Notes:

1. Shifted data that extends past the truncation column is either lost or "spilled" (see SET SPILL). The line is padded to the left with blanks. (The > prefix macro is comparable to the SHIFT subcommand issued with the RIGHT operand.)

2. To shift a block of lines one column to the right, enter >> in the prefix areas of both the first and last lines of the block. The beginning and end of the block can be on different screens but must be within the same file.

   To shift a block of lines n columns to the right, enter >>n or n>> in either the first or last line of the block, and >> in the other. (If you enter a number on both the first and last lines of the block, the one closest to the end of file is used.)

Note for Macro Writers:

The file identifier for the > prefix macro is PRFSHIFT XEDIT.

Responses:

When >> has been entered on only one line of a block of lines to be shifted and a key is pressed, the >> prefix macro is displayed highlighted in the prefix area, and the status area displays the following pending notice:

```
'>>' pending...
```

This "pending" status allows you to scroll through the file before completing the block.

The cursor is placed on the first line shifted.

>

Error Messages:

```
646E 'PRFSHIFT' MUST BE INVOKED FROM THE PREFIX AREA,RC=8
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
686E SYNONYM 'name' NOT RECOGNIZED BY PREFIX MACRO 'PRFSHIFT'.
```

Return Codes:

6 Subcommand rejected in the profile due to LOAD error or QUIT subcommand has been issued in a macro called from the last file in the ring

8 Subcommand must be issued from prefix area

" (DUPLICATE)

Use the " (double quote) prefix subcommand to duplicate one line or a block of lines, either one time or a specified number of times.

The format of the " prefix subcommand is:

```
"           - duplicate one line
"n or n"    - duplicate line n times
""          - duplicate block of lines
""n or n""  - duplicate block n times
```

Usage Notes:

1. To duplicate a block of lines, enter "" on both the first and last lines of the block. The beginning and end of the block can be on different screens.

2. To duplicate a block of lines n times, enter ""*n* or *n*"" on the first line of the block, and enter "" on the last line of the block.

Responses:

When "" has been entered on only one line of a block, the following notice is displayed in the status area:

```
'""' pending...
```

This "pending" status allows you to scroll through the file before completing the block.

The cursor is positioned on the duplicated line.

Error Messages:

```
659E INVALID PREFIX SUBCOMMAND: xxxxx
661E PREFIX 'name' IS INVALID FOR THE LINE ON WHICH
     IT WAS ENTERED.
557S NO MORE STORAGE TO INSERT LINES
```

Appendix A. Filetype Defaults

FILETYPE	SERIAL	TRUNC	LRECL	RECFM	VERIFY	ESCAPE	CASE	SPILL	IMAGE
$EXEC	ON	72	80	F	72	/	U	OFF	ON
$XEDIT	ON	72	80	F	72	/	M	OFF	ON
AMSERV	ON	72	80	F	T	/	U	OFF	ON
ASM3705	ON	71	80	F	T	/	U	OFF	ON
ASSEMBLE	ON	71	80	F	72	/	U	OFF	ON
BASDATA	OFF	80	80	F	T	/	U	OFF	ON
BASIC	OFF	80	80	F	T	/	U	OFF	ON
CNTRL	OFF	80	80	F	T	/	U	OFF	ON
COBOL	ON	72	80	F	T	/	U	OFF	ON
COPY	ON	71	80	F	T	/	U	OFF	ON
DIRECT	ON	72	80	F	T	/	U	OFF	ON
ESERV	ON	71	80	F	T	/	U	OFF	ON
EXEC	OFF	130	130	V	T	/	M	OFF	ON
FORTRAN	ON	72	80	F	T	/	U	OFF	ON
FREEFORT	OFF	81	81	V	T	/	U	OFF	ON
JOB	OFF	80	80	F	T	+	U	OFF	ON
LISTING	OFF	121	121	V	T	/	U	OFF	ON
MACLIB	OFF	71	80	F	72	/	U	OFF	OFF
MACRO	ON	71	80	F	72	/	U	OFF	ON
MEMO	OFF	80	80	V	T	/	M	WORD	ON
MODULE	OFF	80	80	V	72	/	M	OFF	OFF
NAMES	OFF	255	255	V	T	/	M	OFF	ON
NETLOG	OFF	255	255	V	T	/	M	OFF	ON
NOTE	OFF	132	132	V	T	/	M	WORD	ON
NOTEBOOK	OFF	132	132	V	T	/	M	WORD	ON
PASCAL	OFF	72	72	V	T	/	M	OFF	ON
PLI	ON	72	80	F	T	/	U	OFF	ON
PLIOPT	ON	72	80	F	T	/	U	OFF	ON
SCRIPT	OFF	132	132	V	T	/	M	WORD	CANON
TEXT	OFF	80	80	F	72	/	M	OFF	OFF
UPDATE	ON	71	80	F	72	/	U	OFF	ON
UPDT	ON	71	80	F	72	/	U	OFF	ON
VSBASIC	OFF	80	80	F	T	/	U	OFF	ON
VSBDATA	OFF	132	132	V	T	/	U	OFF	ON
XEDIT	OFF	255	255	V	T	/	M	OFF	ON
Other	OFF	80	80	F	**	/	U	OFF	ON

Where VERIFY = T means verify = trunc column and Verify = ** means verify = screen size.

FILETYPE	Tab Settings
$EXEC	1 4 7 10 13 16 19 22 25 31 37 43 49 55 79 80
$XEDIT	1 4 7 10 13 16 19 22 25 31 37 43 49 55 79 80
AMSERV	2 5 10 15 20 25 30 35 40 45 50 55 60
ASM3705	1 10 16 30 35 40 45 50 55 60 65 70
ASSEMBLE	1 10 16 30 35 40 45 50 55 60 65 70
BASDATA	7 10 15 20 25 30 80
BASIC	7 10 15 20 25 30 80
CNTRL	1 5 8 17 27 31
COBOL	1 8 12 20 28 36 44 68 72 80
COPY	1 10 16 30 35 40 45 50 55 60 65 70
DIRECT	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
ESERV	2 5 10 15 20 25 30 35 40 45 50 55 60
EXEC	1 4 7 10 13 16 19 22 25 31 37 43 49 55 79 80
FORTRAN	1 7 10 15 20 25 30 80
FREEFORT	9 15 18 23 28 33 38 81
JOB	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
LISTING	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
MACLIB	1 10 16 30 35 40 45 50 55 60 65 70
MACRO	1 10 16 30 35 40 45 50 55 60 65 70
MEMO	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
MODULE	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
NAMES	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
NETLOG	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
NOTE	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
NOTEBOOK	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
PASCAL	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75
PLI	2 4 7 10 13 16 19 22 25 31 37 43 49 55 79 80
PLIOPT	2 4 7 10 13 16 19 22 25 31 37 43 49 55 79 80
SCRIPT	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
TEXT	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80
UPDATE	1 10 16 30 35 40 45 50 55 60 65 70
UPDT	1 10 16 30 35 40 45 50 55 60 65 70
VSBASIC	7 10 15 20 25 30 80
VSBDATA	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120
XEDIT	1 4 7 10 13 16 19 22 25 31 37 43 49 55 79 80
Other	1 5 10 15 20 25 30 35 40 45 50 55 60 65 70 75 80 85 90 95 100 105 110 115 120

Appendix B. Effects of Selective Line Editing Subcommands

SELECTIVE LINE EDITING - A GENERAL DESCRIPTION

Selective line editing can be used in a macro to control both the action of the editor and the screen display. It consists of four subcommands: SET SELECT, SET DISPLAY, SET SCOPE, and SET SHADOW, which work together in the following manner. You can use SET SELECT to assign a "selection level," or value, to one or more lines in a file. Lines can be logically grouped by assigning them the same selection level. SET DISPLAY may be used in conjunction with SET SELECT to display those lines which have the same selection level. SET SCOPE defines the set of lines that the editor can act upon. SCOPE DISPLAY is the initial setting and, as such, restricts editor action to only those lines that are defined by SET DISPLAY. By default, SET SHADOW displays a notice indicating how many lines are not being displayed in the physical position of the excluded lines in the file. If SET SHADOW is "OFF," only those lines defined by SET DISPLAY will appear on the screen, with no shadow lines to indicate where lines are not being displayed.

Some subcommands automatically cause specific "SETs" to be made within the file when they are invoked from a selective line editing environment. This appendix addresses those "automatic" sets, in addition to differences in subcommand operation when invoked from different selective line editing environments.

AUTOMATIC SELECTION LEVEL ASSIGNMENT: The initial selection level for all lines in a file is 0. When new lines are being added to a file, they are automatically assigned a selection level. That selection level is dependent upon the subcommand that was used to add the new lines. Below is a list of those subcommands and how each affects selection level assignment.

ADD	New line has selection level of n1 (the first selection level defined for inclusion in the screen display) of SET DISPLAY n1 n2. (Also applies to A/I prefix subcommands).
COPY	Copied lines have the same selection level(s) as they do in their original position in the file. (Also applies to C prefix subcommand).
DUPLICAT	Duplicated lines have the same selection level(s) as they originally had, prior to duplication. (Also applies to prefix subcommand).
GET	Lines inserted in the file by the usage of the GET subcommand have selection level n1 (the first selection level defined for inclusion in the screen display) of SET DISPLAY n1 n2.
INPUT	New line has selection level of n1 (the first selection level defined for inclusion in the screen display) of SET DISPLAY n1 n2.
JOIN	Joined lines have the same selection level as the original set of lines with which they are being joined.
MERGE	Merged lines have the same selection level as the lines with which they are being merged.
MOVE	Moved lines retain their original selection level(s). (Also applies to M prefix subcommand).

RECOVER — Recovered line has a selection level of n1 (the first selection level defined for inclusion in the screen display) of SET DISPLAY n1 n2.

REPLACE — When entering the REPLACE subcommand with text, the new line has the same selection level as the line it is replacing. Entering the REPLACE subcommand without text will delete the current line and cause you to enter input mode. The selection level of the new lines inserted while you are in input mode is n1 of the SET DISPLAY n1 n2.

SET SPILL — New line(s) that is created as a result of being spilled has selection level n1 (the first selection level defined for inclusion in the screen display) of SET DISPLAY n1 n2.

SPLIT — New line(s) created by a split have the same selection level(s) as the original line.

HOW THE SCOPE SETTING AFFECTS THE ACTION OF SOME SUBCOMMANDS:

The action of some subcommands is also dependent upon the SCOPE setting. These subcommands can be divided into two functional groups:

1. Those which perform target processing or searches and
2. Those which perform operations on file lines.

Target Processing and Searches:

Target searches are performed only on lines within the current scope. If SCOPE DISPLAY has been set, the target search only considers and looks at displayed lines. This is true for all types of targets: absolute line numbers, a relative displacement from the current line, a line name, a simple string expression, or a complex string expression. Line movement by use of targets is done as if lines outside the scope had been removed from the file. For example, NEXT or +1 may go from line 20 to line 40 if lines 21 to 39 are outside the display range. If SCOPE ALL has been set, the editor acts on the entire file.

Subcommand	Scope Display	Scope All
BOTTOM	The last line of the scope becomes the current line. (Line must be displayed.)	The last line of the file becomes the current line. (Line may or may not be displayed.)
CLOCATE /string/	String must be in the scope to be located. (Line containing string must be displayed.)	String must be in the file to be located. (Line containing string may or may not be displayed.)
DOWN, NEXT	Next line in the scope becomes the current line. (Line must be displayed.)	Next line in the file becomes the current line. (Line may or may not be displayed.)
FIND or FINDUP	Searches forward or backward in the file for the first line within the scope that starts with the text specified in the operand. (Line must be displayed.)	Searches forward or backward in the file for the first line that starts with the text specified in the operand. (Line may or may not be displayed.)
LOCATE +1	Next line in the scope is located. (Line must be displayed.)	Next line in the file is located. (Line may or may not be displayed.)
NFIND or NFINDUP	Searches forward or backward in the file for the first line within the scope that does not start with the text specified in the operand. (Line must be displayed.)	Searches forward or backward in the file for the first line that does not start with the text specified in the operand. (Line may or may not be displayed.)
UP	Previous line in the scope becomes the current line. (Line must be displayed.)	Previous line in the file becomes the current line. (Line may or may not be displayed.)

This concept applies for every subcommand that takes a target except SET RANGE, SORT, and the macro ALL, which are special cases that operate outside of the SCOPE. They execute as if SCOPE ALL were in effect, no matter what the SCOPE setting is. For example:

Subcommand	Scope Display	Scope All
`SET RANGE :1 :20`	RANGE is set from line 1 to 20 whether 1 and 20 are in the scope or not. (Lines 1 and 20 may not be displayed.)	Same as SCOPE DISPLAY
`SORT /NY/ 1 5`	Columns 1 to 5 are sorted into ascending sequence for all lines in the file from the current line up to but not including the line containing the string NY. (Lines may or may not be displayed.)	Same as SCOPE DISPLAY
`ALL /SET/`	All lines in the file with string SET are selected for editing (Lines may or may not be displayed.)	Same as SCOPE DISPLAY

Operations: The operation of many subcommands is affected by the SCOPE setting that has been defined. A few examples follow to illustrate how some of those operations are affected.

Subcommand	Scope Display	Scope All
`CHANGE/Record/Line/*`	"Record"is changed to "Line" in all lines in the scope from the current line until the end of the file. (Lines must be displayed.)	"Record" is changed to "Line" in all lines in the file from the current line until the end of the file. (Lines may or may not be displayed.)
`MOVE 3 /DATA/`	Three lines that are in the scope starting with the current line are moved after the line containing the string DATA (The three lines must be displayed.)	Three lines that are in the file starting with the current line are moved after the line containing the string DATA (The three lines may or may not be displayed.)
`UPPERCAS 20`	20 lines starting from the current line that are in the scope are translated to uppercase. (Lines must be displayed.)	20 lines from the current line that are in the file are translated to uppercase. (Lines may or may not be displayed.)

This concept applies for every subcommand that performs an operation including prefix subcommands and macros, except SORT and the macro ALL. (See previous description.)

ISSUING PREFIX SUBCOMMANDS AND MACROS FROM A SHADOW LINE:

If SCOPE DISPLAY is in effect (the default), all prefix subcommands and macros are invalid if entered on a shadow line with the following exceptions:

Subcommand	Scope Display	Scope All
A	Line is added after the last line represented by the shadow line.	Line is added after the first line represented by the shadow line.
F	Line(s) will be moved or copied after the last line represented by the shadow line.	Line(s) will be moved or copied after the first line represented by the shadow line.
I	Line is inserted after the last line represented by the shadow line.	Line is inserted after the first line represented by the shadow line.
P	Line(s) will be moved or copied before the first line represented by the shadow line.	Line(s) will be moved or copied before the first line represented by the shadow line.
S	Line(s) will be redisplayed.	Line(s) will be redisplayed.

If SCOPE ALL is in effect, all prefix subcommands and macros can be entered on a shadow line. The operation requested is performed on file lines whether they are displayed or not. For example, entering D3 on a shadow line will delete the next three lines in the file whether these lines are represented by a shadow line or are displayed.

For prefix subcommands and macros with block operations, shadow lines (excluded lines) within the block are handled differently depending on the SCOPE setting. See the example below.

Example:

In the following segment of a file, a shadow line falls within a block prefix subcommand entry.

```
===== The resort is comprised of 500 acres.
===== It has a private pond, waterfalls, brooks, and woodlands.
===== It is just one step away from fishing, hiking, swimming, and skating.
=dd== And it is being offered
===== ------------------- 1 line(s) not displayed --------------------
=dd== For more information, please call.
```

When SCOPE DISPLAY is set, the shadow line is not affected by the execution of the block entry. Please note that the shadow line remains in the file in this instance.

```
===== The resort is comprised of 500 acres.
===== It has a private pond, waterfalls, brooks, and woodlands.
===== It is just one step away from fishing, hiking, swimming, and skating.
===== ------------------- 1 line(s) not displayed --------------------
```

However, when the same block entry is executed while SCOPE ALL is set, the shadow line is affected by the execution of the block entry.

```
===== The resort is comprised of 500 acres.
===== It has a private pond, waterfalls, brooks, and woodlands.
===== It is just one step away from fishing, hiking, swimming, and skating.
===== * * * END OF FILE * * *
```

Appendix C. CMS Editor (EDIT) Migration Mode

To edit a file in EDIT migration mode, issue the CMS command, EDIT, the same way that you would when you normally invoke the CMS editor. The XEDIT editor automatically places you in EDIT migration mode, in which you can issue all of the EDIT subcommands; you can also issue any XEDIT subcommand that does not have the same name as an EDIT subcommand.

In addition, EDIT migration mode provides full screen editing capabilities, that is, you can type over data on any file line that is displayed on the screen.

If you want to invoke the old CMS editor (instead of XEDIT in EDIT migration mode) for a particular file, you can specify "OLD" as an option on the EDIT command. For example:

```
EDIT fn ft (OLD
```

The old CMS editor has not been enhanced for VM/SP and will not be enhanced in future releases of VM/SP. Specifically, the CMS editor will not include support for new display devices.

Usage Notes:

1. The following EDIT subcommands are executed in EDIT migration mode the same way they are executed under the CMS editor:

ALTER	FNAME	PROMPT	STACK
AUTOSAVE	FORMAT	QUIT	TABSET
BACKWARD	FORWARD	RECFM	TOP
BOTTOM	GETFILE	RENUM	TRUNC
CASE	IMAGE	REPEAT	TYPE
CHANGE	INPUT	REPLACE	UP
CMS	LINEMODE	RESTORE	X,Y
DELETE	LOCATE	RETURN	ZONE
DOWN	LONG	REUSE	?
DSTRING	NEXT	SAVE	$XXXX (macros)
FIND	OVERLAY	SERIAL	
FMODE	PRESERVE	SHORT	

2. The following EDIT subcommands are executed slightly differently in EDIT migration mode:

   SCROLL/SCROLLUP
   : Under the CMS editor, these subcommands scroll the file one full screen. In EDIT migration mode, they scroll the screen one full screen minus one line, so that the last (or first) line on the previous screen appears on the new display.

   VERIFY
   : Under the CMS editor, the operands ON and OFF are ignored if the VERIFY subcommand is issued from a display terminal. In EDIT migration mode, ON and OFF are handled the same way on a display as they are on a typewriter terminal.

3. Any XEDIT subcommand that does not appear in the list above can be issued in EDIT migration mode.

4. In EDIT migration mode, you can issue the XEDIT subcommand HELP to request information on EDIT subcommands only. You cannot request a HELP display for XEDIT subcommands.

5. In the EDIT command, the default filemode is "*" instead of "A1."

6. The screen differs from the CMS editor's screen in the following ways:

   a. The file identification line (the first line of the screen) contains the following additional information: the truncation column (TRUNC=nn); the current number of lines in the file (SIZE=nn); the file line number of the current line (LINE=nn); the column number of the current column (COL=nn), and the alteration count (ALT=nn).

   b. The command line contains an arrow (====>).

   c. The lower right hand corner displays the status of the editing session, for example, input mode or edit mode.

Notes for Macro Writers:

When an EDIT command is issued from an EXEC file, the CMS editor is invoked. To invoke EDIT migration mode, you must issue the following statement in your EXEC file:

```
EXEC EDIT ...
```

Appendix D. Migrating from EDIT to XEDIT

Figure D-1 lists the EDIT subcommands and their XEDIT counterparts.

Many of the subcommand names are the same; however, the operands are usually different. Refer to the subcommand descriptions in this book for complete information on using the XEDIT subcommands.

If you used this EDIT command:	Now use this XEDIT command:
ALTER	ALTER
AUTOSAVE	SET AUTOSAVE
BACKWARD	UP
BOTTOM	BOTTOM
CASE	SET CASE
CHANGE	CHANGE (G not supported)
CMS	CMS
DELETE	DELETE
DOWN	DOWN
DSTRING	DELETE
FILE	FILE
FMODE	SET FMODE
FNAME	SET FNAME
FORMAT	SET TERMINAL
FORWARD	DOWN
GETFILE	GET
IMAGE	SET IMAGE
INPUT	INPUT
LINEMODE	Not supported
LOCATE	LOCATE
LONG	SET MSGMODE ON LONG
NEXT	NEXT
OVERLAY	OVERLAY
PRESERVE	PRESERVE
PROMPT	Not supported
QUIT	QUIT
RECFM	SET RECFM
RENUM	RENUM
REPEAT	REPEAT (repeat any previous subcommands)
REPLACE	REPLACE
RESTORE	RESTORE
RETURN	RETURN
REUSE (=)	=
SAVE	SAVE
SCROLL	FORWARD
SCROLLUP	BACKWARD
SERIAL	SET SERIAL
SHORT	SET MSGMODE ON SHORT
STACK	STACK (STACK string not supported)
TABSET	SET TABS
TOP	TOP
TRUNC	SET TRUNC
TYPE	TYPE (second operand not supported)
UP	UP
VERIFY	SET VERIFY

Figure D-1 (Part 1 of 2). EDIT Migration Chart

If you used this EDIT command:	Now use this XEDIT command:
X or Y	Can be done via SET SYNONYM and/or REPEAT
ZONE	SET ZONE
?	?
nnnn	:nnnn (nnnn is equivalent to +nnnn)
$DUP	DUPLICATE
$MOVE	MOVE

Figure D-1 (Part 2 of 2). EDIT Migration Chart

Appendix E. Optimizing Macros

The XEDIT macro VMFOPT can be used to improve the performance of XEDIT macros. Conversely, a macro optimized by the VMFOPT macro can be restored to its original form by executing the VMFDEOPT macro.

The following XEDIT macros have already been optimized:

```
CMSEDIT
VMFOPT
VMFDEOPT
```

These macros contain the following statements, which are inserted during the optimizing process; they indicate that if a macro needs to be changed, it must first be deoptimized (by using VMFDEOPT) and then reoptimized (by using VMFOPT).

```
*%OPTIMIZED AT 14:13:12 ON 80/01/29
*%       N O T I C E:
*% THIS MACRO HAS BEEN OPTIMIZED USING THE XEDIT MACRO - VMFOPT
*% DE-OPTIMIZE THIS MACRO BEFORE MAKING ANY CHANGES USING - VMFDEOPT
```

Note: VMFOPT and VMFDEOPT will execute satisfactorily only on the macros listed above.

The VMFOPT Macro

The format of the VMFOPT macro is as follows:

VMFOPT	

The VMFOPT macro improves performance in the following ways:

- It replaces labels with line numbers in EXEC 2 &GOTO statements. In other words, an EXEC 2 statement "&GOTO -LABEL" is replaced by an equivalent statement, "&GOTO linenumber -LABEL". For example, the following EXEC 2 statement:

  ```
  &GOTO -EXIT
  ```

  is replaced by:

  ```
  &GOTO 182 -EXIT
  ```

  where the label "-EXIT" is on line 182. Notice that the label name (EXIT) is kept, so that the macro can be deoptimized, if necessary.

- It recomputes existing "&GOTO linenumber" statements whose targets may have shifted because of extra lines inserted by VMFOPT.

- It is also able to optimize label variables of the form "&GOTO -&X". Targets for label variables can be declared as label constants, using the optimizer control command, *%LABELS. This command causes VMFOPT to insert EXEC

2 statements that set up special variables. The name of these special variables contains the unprintable character X'E0' to avoid confusion with user-defined variables.

For example:

Prior to optimizing:

```
*%LABELS -BOTTOM -CANCEL -CASE -CHANGE -CLINE -CMD
```

When optimized:

```
*%LABELS -BOTTOM -CANCEL -CASE -CHANGE -CLINE -CMD  SYN -CMS
 &STACK LIFO  187 194 199 221 265 287
 &READ VARS  & -BOTTOM & -CANCEL & -CASE & -CHANGE & -CLINE & -CMD
```

The VMFDEOPT Macro

Macros optimized by VMFOPT can be restored to their original form by executing the VMFDEOPT macro.

The format of the VMFDEOPT macro is as follows:

VMFDEOPT	

After the VMFDEOPT macro is executed, all &GOTO statements are restored to their original form, and any extra lines added by VMFOPT (for example, the optimization statement) are removed.

When you wish to change an optimized macro, first deoptimize it using VMFDEOPT and then, after the changes are made, reoptimize it using VMFOPT.

Appendix F. A Summary of XEDIT Subcommands and Macros

Add	Add n lines after current line.
ALL	Select a collection of lines for display/editing.
ALter	Change a single character to another (character or hex).
BAckward	Scroll backward n frames.
Bottom	Go to last line of file.
CANCEL	Terminate all files.
CAppend	Add text to end of current line.
CDelete	Delete characters, starting at column pointer.
CFirst	Move column pointer to beginning of line (zone).
Change	Change one string to another.
CInsert	Insert text in the current line.
CLAst	Move the column pointer to the end of the line (zone).
CLocate	Locate a string; move the column pointer and the line pointer.
CMS	Pass a command to CMS, or enter CMS subset mode.
CMSG	Display message in command line of user's screen.
COMMAND	Execute a subcommand without checking for synonym or macro.
COMPress	Prepare line(s) for realignment by replacing blanks with tab characters.
COpy	Copy line(s) at specified location.
COUnt	Display the number of times a string appears.
COVerlay	Replace characters, starting at column pointer.
CP	Pass command to VM/SP control program.
CReplace	Replace characters, starting at the column pointer.
CURsor	Move the cursor to specified position on the screen, and optionally assign a priority for this position.
DELete	Delete line(s).
Down	Move line pointer n lines toward end of file (same as NEXT).

DUPlicat	Duplicate line(s).
EMSG	Display a message and sound the alarm.
EXPand	Reposition data according to new tab settings.
EXTract	Return information about internal XEDIT variables and file data.
FILE	Write file on disk.
Find	Search for line that starts with specified text.
FINDUp	Search for a line that starts with specified text; searches in a backward direction.
FOrward	Scroll forward n frames.
GET	Insert lines from another file.
Help	Request on-line display of XEDIT subcommands and macros; invoke the CMS HELP facility.
HEXType	Display line(s) in hexadecimal and EBCDIC.
Input	Insert a single line, or enter input mode.
Join	Join lines.
LEft	View data to the left of column one.
LOAD	Read file into storage; use in profile macro only.
Locate	Move line pointer to specified target.
LOWercas	Change uppercase letters to lowercase.
LPrefix	Simulate writing in the prefix area of the current line and pressing the ENTER key.
MACRO	Execute macro without checking for subcommand or synonym.
MErge	Combine two sets of lines.
MODify	Display a SET subcommand current values in the command line, so it can be overtyped and reentered.
MOve	Move line(s) to another place in the file.
MSG	Display message in message line.
Next	Move line pointer n lines toward end of file (same as DOWN).
NFind	Search for first line that does not match specified text.

NFINDUp	Search backward for first line that does not match specified text.
Overlay	Replace characters in current line.
PARSE	Scans a line of a macro to check the format of its operands.
POWerinp	Enter an input mode for continuous typing.
PREServe	Save settings of variables until RESTORE.
PURge	Remove macro from virtual storage.
PUT	Insert lines into another file (new or existing), or into a buffer (to be retrieved by GET from another file).
PUTD	Insert lines into another file (new or existing) or into a buffer (to be retrieved by GET from another file); delete original lines.
Query	Display the current value of editing options.
QUIT	End an editing session without saving changes.
READ	Place information from the terminal in the console stack.
RECover	Replace deleted lines.
RENum	Renumber VSBASIC or FREEFORT file.
REPEat	Advance line pointer and re-execute last subcommand.
Replace	Replace current line, or delete current line and enter input mode.
RESet	Remove prefix subcommands or macros when screen is in pending status.
RESTore	Restore settings of XEDIT variables to values they had when PRESERVE was issued.
RGTLEFT	Shift display to the right; re-issue to shift back to original display.
RIght	View data to the right of the last (right-most) column.
SAVE	Write file on disk and remain in edit mode.
SCHANGE	Make a selective change, using PF keys.
SET ALT	Change the number of alterations that have been made to the file since the last AUTOSAVE and/or since the last SAVE.
SET APL	Inform the editor if APL keys are used.

SET ARBchar	Define an arbitrary character, which allows you to specify only the beginning and the end of a character string that is the object of a target search.
SET AUtosave	Automatically issue a SAVE subcommand at specified intervals.
SET CASE	Upper or lower case control; specify if case is significant in target searches.
SET CMDline	Control the position of the command line.
SET COLOR	Associate specific colors and attributes with various fields on the XEDIT screen.
SET COLPtr	Specify if column pointer is displayed (typewriter terminals only).
SET CTLchar	Define a control character, which associate parts of a reserved line with highlighting, protection, visibility, various colors, and extended highlighting.
SET CURLine	Define the position of the current line on the screen.
SET DISPlay	Indicate which selection levels of lines will be displayed on the screen.
SET ENTer	Define a meaning for the ENTER key.
SET ESCape	Define a character that allows you to enter a subcommand while in input mode (typewriter terminals only).
SET FILler	Define a character that is used when a line is expanded.
SET FMode	Change the filemode of the current file.
SET FName	Change the filename of the current file.
SET FType	Change the filetype of the current file.
SET FULLread	Determine whether or not the editor recognizes null characters in the middle of screen lines.
SET HEX	Allows string targets to be specified in hexadecimal.
SET IMage	Control how tabs and backspaces are handled.
SET IMPcmscp	Control whether subcommands not recognized by the editor are transmitted to CMS and CP.
SET LASTLorc	Define the contents of the last locate or change buffer.
SET LINENd	Define a line end character.
SET LRecl	Define a new logical record length.

SET MACRO	Control the order in which the editor searches for subcommands and macros.
SET MASK	Define a new mask, which is the contents of added lines and the input zone.
SET MSGLine	Define the position of the message line on the screen.
SET MSGMode	Control the message display.
SET NONDisp	Define a character that is used in place of non-displayable characters.
SET NULls	Specify whether trailing blanks are replaced with nulls to allow character insertion.
SET NUMber	Specify whether file line numbers are displayed in the prefix area.
SET PAn	Define a meaning for a PA key.
SET PACK	Specify if the file is to be written to disk in packed format.
SET PENDing	Add an entry to the pending list and display a pending notice in the status area, or notify the user that a prefix macro was entered incorrectly.
SET PFn	Define a meaning for a PF key.
SET Point	Define a symbolic name for the current line.
SET PREfix	Control the display of the prefix area; define a synonym for a prefix subcommand or macro.
SET RANge	Define a new "top" and "bottom" for the file.
SET RECFm	Define the record format.
SET REMOte	Control the way data transmission is handled.
SET RESERved	Reserve a line, which cannot be used by the editor.
SET SCALe	Control the display of the scale line.
SET SCOPE	Specify whether the editor operates on the entire file or on only those lines displayed.
SET SCReen	Divide the screen into logical screens, for multiple views of the same or of different files.
SET SELect	Assign a selection level to a line or group of lines in a file.
SET SERial	Control file serialization.

SET SHADow	Specify whether the file is to be displayed with or without shadow lines indicating where lines have been excluded from the display.
SET SIDcode	Specify a character string that is to be inserted into every line of an update file.
SET SPAN	Allow a string target to span a number of lines.
SET SPILL	Control whether or not truncation will occur for certain subcommands.
SET STAY	Specify whether the line pointer moves when searching for a string for certain subcommands.
SET STReam	Specify whether the editor searches only the current line or the whole file for a column-target.
SET SYNonym	Specify whether the editor looks for synonyms; assign a synonym.
SET TABLine	Control the display of the tab line.
SET TABS	Define the logical tab stops.
SET TERMinal	Specify whether a terminal is used in line mode or full screen mode.
SET TEXT	Inform the editor if TEXT keys are used.
SET TOFEOF	Control the display of TOF/EOF lines.
SET TRANSLat	Control user-defined uppercase translation.
SET TRunc	Define the truncation column.
SET VARblank	Specify whether the number of blanks between two words is significant in a target search.
SET Verify	Control whether lines changed by subcommands are displayed; define the columns displayed and whether displayed in EBCDIC or hexadecimal or both.
SET WRap	Control whether the editor wraps around the file if EOF (TOF for backwards searches) is reached during a search.
SET Zone	Define new limits within each line for target searches.
SET =	Insert string into the equal buffer.
SHift	Move data right or left (data loss possible).
SORT	Sort all or part of a file, in ascending or descending order.
SOS	Specify functions for screen operation simulation.

SPlit	Split a line into two or more lines.
SPLTJOIN	Split a line or join two lines at the cursor.
STAck	Place line(s) from the file into the console stack.
STATus	Display SET subcommand current settings; create a macro that contains these settings.
TOP	Move line pointer to null TOP OF FILE line.
TRAnsfer	Place editing variable(s) in the console stack, for use by a macro.
Type	Display lines.
Up	Move linebpointer toward top of file.
UPPercas	Translate all lowercase characters to uppercase.
Xedit	Edit multiple files.
&	Use before a subcommand for repeated execution.
=	Re-execute the last subcommand or macro.
?	Display the last subcommand executed.

Prefix Subcommands and Macros:

A	Add line(s).
C	Copy line(s).
D	Delete line(s).
E	Extend a line.
F	Move or copy following this line.
I	Insert line(s).
M	Move line(s).
P	Move or copy preceding this line.
S	Show excluded line(s).
SCALE	Display the scale on this line.
TABL	Display the tab line on this line.
X	Exclude line(s) from display.
.xxxx	Assign symbolic name to this line.

| <	Shift line(s) to the left.
/	Make this line the current line.
| >	Shift line(s) to the right.
"	Duplicate line(s).

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