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Program Product

IBM Virtual Machine/ System Product: System Product Editor Command and Macro Reference

Program Number 5664-167

Release 2

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Second Edition (March 1982)

This edition, with Technical Newsletter SN24-5715, applies to release 2 of IBM Virtual Machine/System Product, Program Number 5664-167, and to all subsequent versions and releases until otherwise indicated in new editions or Technical Newsletters.

Changes are continually made to the information herein; before using this publication in connection with the operation of IBM systems, consult the *IBM System/370 and 4300 Processors Bibliography,* GC20-0001, for the editions that are applicable and current.

Summary of Amendments

For a list of changes, see page iii.

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

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Summary of Amendments for IBM VM/SP: System Product Editor Command and Macro Reference

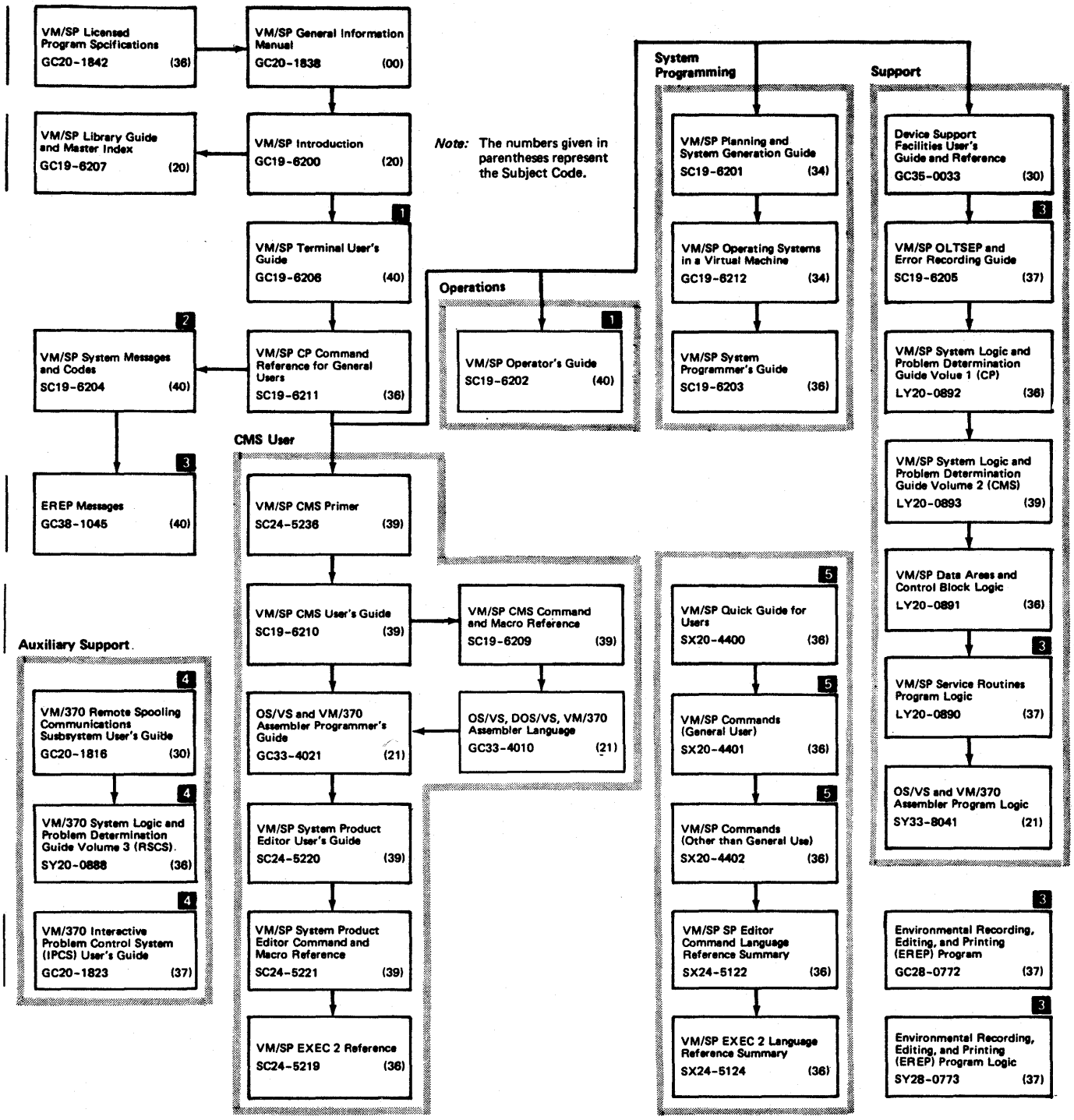
Summary of Amendments for SC24-5221-1 as updated by SN24-5715 for VM/SP Release 2

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 Amendments 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.

Publications that support VM/SP as used in conjunction with VM/370 Release 6



Legend:

1 For SNA terminal users, the prerequisite publication is: *VM/VCNA Installtion, Operations, and Terminal Use,* Order Number SC27-0502.

2 All users of virtual machine must use the *VM/SP System Messages and Codes* publication.

3 Contains information on VM/EREP support. EREP Release 3 is recommended for use with VM/SP Release 2.

4 VM/370 Release 6 components. However, the IPCS Extension Program Product (5748-SA1) and the RSCS Networking Program Product (5748-XP1) are recommended for use with VM/SP.

5 If you want all three of the Reference Summary publications, use SBOF 3820 when ordering.

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 *IBM Virtual Machine/System Product: System Product Editor User's Guide,* which also contains information on using the EXEC 2 macro facility 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" describes the prefix subcommands, 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: CMS Editor (EDIT) Compatibility Mode" explains how to edit a file in EDIT compatibility mode.

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

"Appendix D: Display Editing System (EDGAR) Compatibility Mode" explains how to edit a file in EDGAR compatibility mode.

"Appendix E: Migrating from EDGAR to XEDIT" lists the EDGAR subcommands and their XEDIT counterparts.

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

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

Prerequisite Publications:

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

Corequisite Publications:

IBM Virtual Machine/System Product: EXEC 2 Reference, SC24-5219
IBM Virtual Machine/System Product: CMS User's Guide, SC19-6210

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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:

subcom- mand 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 are keyword and/or positional. 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 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] Options valid only in update mode: [Update|NOUpdate] [Seq8|NOSeq8] [Ctl *fn1*|NOCtl] [Merge] [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.

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.

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, 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 CMSSEG 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. The following parameters are passed to the PROFILE macro when it is invoked by an XEDIT command:
   - Everything following the command name XEDIT is assigned to the EXEC 2 variable &ARGSTRING.
   - Each parameter following the command name is assigned to an EXEC 2 argument (&1-&n).

   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:

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

Error Messages with UPDATE Options:

```
007E FILE 'fn ft fm' IS NOT FIXED, 80 CHAR.
     RECORDS.,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
174W SEQUENCE ERROR INTRODUCED IN OUTPUT FILE:
     '........' TO '........'. ',RC=32
179E MISSING OR DUPLICATE 'MACS' CARD IN
     CONTROL FILE 'fn ft fm'
183E INVALID aux/ctl FILE CONTROL CARD.,RC=32
210W INPUT FILE SEQUENCE ERROR '........'
     TO '........'.,RC=32
597E UNABLE TO MERGE UPDATES CONTAINING
     './ S' CARDS.,RC=32
```

Return Codes:

0	Normal
6	Subcommand rejected in the profile due to LOAD error
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:

The cursor moves to the first tab column of the first line that was added.

The prefix areas associated with the added lines are highlighted.

The line pointer remains unchanged.

Error Messages:

```
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE., RC=3
557S NO MORE STORAGE TO INSERT LINES.,RC=4
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

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
8 Prefix area contains pending or incomplete subcommand

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 COLUMN=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
===== 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
```

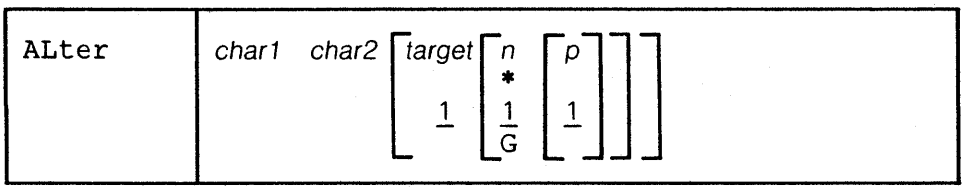
```
ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=33 LINE=18 COLUMN=1

===== 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

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).

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, one the following message is displayed:

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

Error Messages:

```
546E TARGET NOT FOUND,RC=2
585E NO LINE(S) CHANGED,RC=4
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxx,RC=5
545E MISSING OPERAND(S),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

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 THIS

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:

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

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

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
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. Truncation takes place if the appended text goes 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.

The line pointer remains unchanged.

Error Messages:

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

Return Codes:

0 Normal
3 Truncated
4 No lines changed
6 Subcommand rejected in the profile due to LOAD error

Examples:

Current Line:

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

Current Line:

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

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). 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 LINES DELETED
```

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED.,RC=4
520E INVALID OPERAND : operand,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

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
8 Prefix area contains pending or incomplete subcommand

Examples:

Current Line:

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

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....
```

Current Line:

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

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....
```

Current Line:

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

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....
```

Current Line:

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

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....
```

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

Examples:

Current Line:

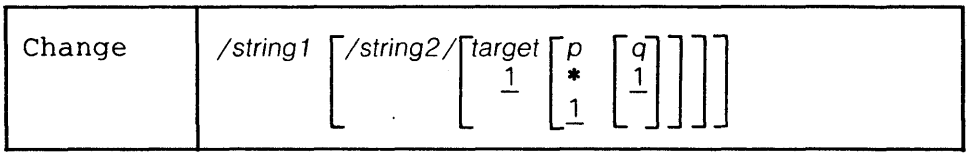
(Note the position of the column pointer.)

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

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.

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, all characters shifted past the truncation column (see SET TRUNC) will be lost.

   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. 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.

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

4. Using SET STAY and CHANGE:

If you specify that a change is to occur on multiple lines but string1 is not found, the current line will be:

a. unchanged, if SET STAY ON has been issued.

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

5. Using SET ZONE and CHANGE:

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

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

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:

```
517I  nn OCCURRENCES CHANGED ON nn LINE(S).
518E  nn OCCURRENCES CHANGED ON nn LINE(S);
      nn LINE(S) TRUNCATED.
```

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
503E TRUNCATED, RC=3
518E nn OCCURRENCES CHANGED ON nn LINE(S);
     nn LINE(S) TRUNCATED,RC=3
585E NO LINE(S) CHANGED.,RC=4
511E STRING2 CONTAINS MORE ARBITRARY CHARACTERS
     THAN STRING1,RC=5
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
1 TOP or EOF reached during change
2 Target line not found
3 Truncation 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

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/ * *
```

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 immediately before 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 immediately before 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. Data that is shifted to the right beyond the truncation column will be lost.
3. Use the CLOCATE subcommand to move the column pointer to the desired location.

Responses:

The column pointer and the line pointer remain unchanged.

Error Messages:

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

Return Codes:

0	Normal
3	Truncation occurred
4	No line(s) changed
5	Missing operand(s)
6	Subcommand rejected in the profile due to LOAD error

Examples:

Current Line:

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

```
CL /high/  (move the column pointer)
CI exactly 29,000 feet    (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

Examples:

```
SET ZONE 1 20
```

Current Line:

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

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. This 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 this string 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 the string.

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 the left zone (-*) or the right zone (+* or *).

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:

```
[+|-][¬]/string1[/|[¬]/string2/]...
  1   2     3      4              5
```

   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, enclosed in delimiters
   4 "OR" symbol (vertical bar) (locate either one string or another)
   5 Up to four strings may be 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", then searches for "buggy".

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
```

   In addition, 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.

   `STREAM OFF`
   the search is confined to the current line (or zones within the line).

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
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.

Examples:

Current Line:

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

CLOCATE :6 (absolute column number)

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

Current Line:

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

CLOCATE +6 (relative column number)

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

Current Line:

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

```
CLOCATE /customs/
```

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

Current Line:

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

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

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

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 *with* an operand, the editor automatically returns to edit mode after the CMS subset command is executed. As long as the editor is in the shared segment (the default), any CMS command may be executed; otherwise, only the CMS subset commands may be executed.

   The following commands may be executed in CMS subset mode:

```
ACCESS     GENMOD     OPTION     SET
ASSGN      GLOBAL     PEEK       START
COMPARE    HELP       PRINT      STATE
CP         IDENTIFY   PUNCH      STATEW
DEBUG      INCLUDE    QUERY      SVCTRACE
DISK       LISTFILE   RDR        SYNONYM
DLBL       LOAD       RDRLIST    TAPE
ERASE      LOADMOD    READCARD   TELL
FETCH      MODMAP     RECEIVE    TYPE
FILEDEF    NAMEFIND   RELEASE    XEDIT
FILELIST   NAMES      RENAME
GENDIRT    NOTE       SENDFILE
```

2. If you enter the CMS subcommand *without* an operand, you can then use only the CMS subset commands. If you issue any other command you receive the message INVALID SUBSET COMMAND. You must use the CMS subset command RETURN to return to edit mode.

   For example:

```
CMS
ERASE MYFILE1 SCRIPT
ERASE MYFILE2 MEMO
RETURN
```

3. 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
nn	The return code of the CMS command after RETURN to XEDIT environment
0	Normal
6	Subcommand rejected in the profile due to LOAD error

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:

If it is issued to a typewriter terminal, the CMSG subcommand is a no-op.

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

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

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 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').

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:

   ```
   COMPRESS
   SET TABS
   EXPAND
   ```

   you can realign an entire table.

2. 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

Responses:

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

The last line compressed becomes the new current line.

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=4
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
1 TOP 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

Examples:

Figure 3-2 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 COLUMN=1




===== * * * 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 3-2. Realigning a Table (Current tab setting is 1 15 20) - COMPRESS (Part 1 of 3)

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

===== 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 * * *




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

Figure 3-2. Realigning a Table - Set New Tabs and EXPAND (Part 2 of 3)

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

===== 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 3-2. Realigning a Table - Realigned Table (Part 3 of 3)

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:

```
505E NOT EXECUTED: THE TARGET LINE (nn) IS WITHIN THE
     LINES TO COPY.,RC=1
546E TARGET NOT FOUND.,RC=2
557S NO MORE STORAGE TO INSERT LINES.,RC=4
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

Return Codes:

0 Normal
1 Target line within the line to copy
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
8 Prefix area contains pending or incomplete subcommand

Examples:

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

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=26 LINE=15 COLUMN=1

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 COLUMN=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 3-3. 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 TRANSFER LASTMSG to get the number of occurrences.

Responses:

The last line searched becomes the new current line.

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

```
522I  nn OCCURRENCES
```

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),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

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.

Error Messages:

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

Return Codes:

0	Normal
3	Truncation occurred
4	No lines changed
5	Missing operand(s)
6	Subcommand rejected in the profile due to LOAD error

Examples:

Current Line:

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

```
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....
```

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

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 the text goes beyond the truncation column, part of the text will be lost, and an error message will be issued.

Error Messages:

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

Return Codes:

0	Normal
3	Truncation occurred
4	No line(s) changed
5	Missing operand(s)
6	Subcommand rejected in the profile due to LOAD error

Examples:

Current Line:

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

```
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....
```

CURSOR

Use the CURSOR subcommand to move the cursor to a specified position.

The format of the CURSOR subcommand is:

CURsor	CMdline [*colno*|1] Column File *lineno* [*colno*] Screen *lineno* [*colno*]

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.

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). If not specified, the current column where the cursor is displayed is used.

Usage Notes:

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. Otherwise, the following message is displayed:

   ```
   521E INVALID LINE NUMBER
   ```

2. Remember that the editor uses the first *two* lines of a screen. Therefore, if you want to move the cursor to the first line of file data, use CURSOR SCREEN 3.

3. The CURSOR COLUMN subcommand is a good candidate for PF key assignment. By default, the editor assigns CURSOR COLUMN to the PF12 key.

4. The CURSOR subcommand with the FILE or SCREEN operands is mainly intended to be issued from XEDIT macros.
5. 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 TRANSFER subcommand).
6. CURSOR COLUMN works only if the current column falls within the first pair of columns defined by the SET VERIFY subcommand.

Error Messages:

```
521E INVALID LINE NUMBER,RC=1
527E INVALID COLUMN NUMBER,RC=1
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
520E INVALID OPERAND : operand,RC=5
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

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 a string 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 LINES 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.

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

Return Codes:

0	Normal
1	Partial delete due to TOP or EOF reached during execution
2	Target line not found
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error
8	Prefix area contains pending or incomplete subcommand

Examples:

Figure 3-4 is a before-and-after example of the DELETE subcommand.

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=28 LINE=19 COLUMN=1

===== 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 COLUMN=1
3 LINES 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 3-4. 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 : xxxxxxxxx,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

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:

```
546E TARGET NOT FOUND.,RC=2
557S NO MORE STORAGE TO INSERT LINES.,RC=4
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

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
8 Prefix area contains pending or incomplete subcommand

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

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, starting with the current 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. 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.

Responses:

The last line expanded becomes the new current line.

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=4
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
1 TOP 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

Examples:

See the "Examples" section of the COMPRESS subcommand.

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:

FILE	[*fn* | = [*ft* | = [*fm* | =]]]

where:

fn
indicates the filename for the file. If you do not specify fn, 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. When you specify a file identifier, any existing file that has an identical fileid is replaced. If you change the file identifier and the file being edited had been previously written to disk, that copy of the file is not altered.
2. You can change the filename, filetype, and filemode during an editing session by using the SET FNAME, SET FTYPE, and SET FMODE subcommands.
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.

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, the file is written to disk, that is, a SAVE subcommand is issued for the file; however, you must issue a QUIT when control is returned to the editor.

2. To return control directly to CMS, you can issue the following EXEC 2 statement:

   ```
   &STACK LIFO FILE
   ```

   When the macro completes its execution, control is returned to CMS.

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:

```
520E INVALID OPERAND : operand,RC=5
598S UNABLE TO BUILD UPDATE FILE : INTERNAL
     LIST DESTROYED.,RC=7
599S UNABLE TO BUILD UPDATE FILE : SERIALIZATION
     DESTROYED.,RC=7
037E DISK 'mode' IS READ ONLY.,RC=12
531E DISK IS FULL. SET NEW FILEMODE OR CLEAR
     SOME DISK SPACE.,RC=13
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
```

Return Codes:

0	Normal
1	File has been saved and was the only one edited
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error
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

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. Tab characters are converted to blanks (or filler characters) before the search is made if the SET IMAGE ON subcommand has been issued. 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.

Responses:

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

Error Messages:

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

Return Codes:

0 Normal
2 No line was found
5 Missing operand(s)
6 Subcommand rejected in the profile due to LOAD error

Examples:

Current Line:

```
===== Dingoes are wild dogs of Australia.
      |...+....1....+....2....+....3....+....4....+....5....+....6....
=====           .
=====           .
===== 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. Tab characters are converted to blanks (or filler characters) before the search is made if the SET IMAGE ON subcommand has been issued. 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.

Responses:

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

Error Messages:

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

Return Codes:

0 Normal
2 No line was found
5 Missing operand(s)
6 Subcommand rejected in the profile due to LOAD error

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:

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

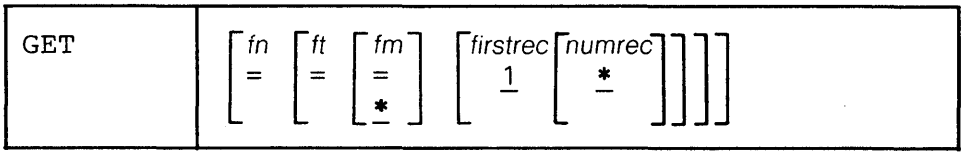
Return Codes:

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

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. 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. You should determine how many records were actually copied, and then write the current file on disk.
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:

```
563W RECORDS TRUNCATED,RC=3
565W EOF REACHED; RECORDS TRUNCATED,RC=3
557S NO MORE STORAGE TO INSERT LINES,RC=4
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
048E INVALID MODE 'mode'.,RC=24
002E FILE 'fn ft fm' NOT FOUND.,RC=28
562E NO LINE(S) SAVED BY PUT(D) SUBCOMMAND.,RC=28
156E 'RECORD nn' NOT FOUND - FILE 'fn ft fm' HAS ONLY
     'nn' RECORDS.,RC=32
069E DISK 'mode' NOT ACCESSED,RC=36
104S ERROR 'nn' READING FILE 'fn ft fm' FROM DISK,RC=100
```

Return Codes:

0	Normal
3	Records truncated
4	No more storage available to insert lines
5	Invalid operand or (line) number
6	Subcommand rejected in the profile due to LOAD error
8	Prefix area contains pending or incomplete subcommand
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.
5. HELP MENU is initially set to the PF1 key.

Error Messages:

From the CMS HELP facility.

Return Codes:

0	Normal
6	Subcommand rejected in the profile due to LOAD error
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:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,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

Examples:

Current Line:

```
===== To be or not to be -
```

HEXTYPE (display the current line in hexadecimal and character)

displays, on a new screen, the following:

```
E3964082 85409699 409596A3 40A39640 82854060
 T o   b  e   o r    n o t    t o    b  e  -
```

Press the CLEAR key to get the file image back on the screen.

INPUT

In XEDIT MACROS only inputs 10 lines at a time -- must insert INPUT for each block of 10.

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 scale 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.
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.
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, and the screen layout is restored. (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 screen line, you cannot enter data unless you also move the command line (by using the SET CMDLINE subcommand.) You can use SET CMDLINE TOP and SET CMDLINE BOTTOM, but you cannot use SET CMDLINE ON (which assigns the command line to the last two lines on the screen.)

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 keys in input mode, the editor automatically exits from input mode, enters edit mode to execute the subcommand associated with the PF key, and returns to input mode. Therefore, you should carefully select which PF 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 keys are meaningless when used in input mode, for example, a PF key assigned to the ? subcommand.

   PF keys that are particularly useful in input mode are those assigned to TABKEY, SPLIT, and JOIN.
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'.

Error Messages:

```
503E TRUNCATED,RC=3
557S NO MORE STORAGE TO INSERT LINES.,RC=4
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

Return Codes:

0 Normal
3 Truncation occurred
4 No more space available to add lines
6 Subcommand rejected in the profile due to LOAD error
8 Prefix area contains pending or incomplete subcommand

JOIN (Macro)

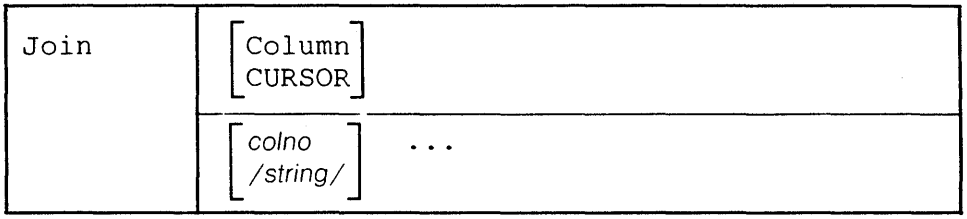
Use the JOIN macro to merge two or more lines into one replacement line.

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.

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.

`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 a good candidate for PF key assignment and is initially assigned by the editor to the PF11 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. In all cases, if the resulting (merged) line is greater than the logical record length, truncation will occur.
2. The original lines that are appended as a result of a JOIN macro are 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.
6. The cursor or the column number or string specified must fall within the current zones .

Error Messages:

```
585E NO LINE(S) CHANGED,RC=1
561E CURSOR IS NOT ON A VALID DATA FIELD,RC=1
564W EOF REACHED,RC=1
503E TRUNCATED,RC=3
526E OPTION 'CURSOR' VALID IN DISPLAY MODE ONLY,RC=3
520E INVALID OPERAND : operand,RC=5
575E INVALID JOIN COLUMNS DEFINED,RC=5
588E PREFIX SUBCOMMAND WAITING,RC=8
```

Return Codes:

0	Normal
1	No line(s) changed
3	Truncation occurred
5	Invalid operands
6	Subcommand rejected in the profile due to LOAD error
8	Prefix area contains pending or incomplete subcommands

Examples:

Using JOIN CURSOR Assigned to a PF 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 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 column one* on the screen. The data starting in column one moves to the right, thus allowing you to see a specified number of positions to its left.

The format of the LEFT subcommand is:

LEft	[*n*|1]

where:

n

specifies the number of positions to the left of column one 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.
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 shifted cannot exceed the logical record length.

Notes for Macro Writers:

TRANSFER VERSHIFT places the value of n (plus or minus) in the console stack so that it can be used by a macro.

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

Examples:

Figure 3-5 is a before-and-after example of the LEFT subcommand.

```
OGDEN    NASH     A1  V 132  TRUNC=132 SIZE=28 LINE=10 COLUMN=1
===== 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 COLUMN=1
=====          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 3-5. 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] Options valid only in update mode: [Update|NOUpdate] [Seq8|NOSeq8] [Ctl *fn1*|NOCtl] [Merge] [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 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.

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 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:

```
&IF .&2 NE . &IF &2 NE ( &SKIP 3
   &XARGS = &RANGE OF & 2 &INDEX
   &STACK LIFO &1 SCRIPT &XARGS
   &READ ARGS
&LARGS = &RANGE OF & 1 &INDEX
LOAD &LARGS
```

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:

```
508E 'LOAD' MUST BE THE FIRST SUBCOMMAND IN THE PROFILE,RC=3
555E FILE 'fn ft fm' ALREADY IN STORAGE, RC=4
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
003E INVALID OPTION 'option'.,RC=24
029E INVALID PARAMETER 'parameter' IN THE
     OPTION 'option' FIELD.,RC=24
048E INVALID MODE 'mode'.,RC=24
054E INCOMPLETE FILEID SPECIFIED.,RC=24
065E 'option' OPTION SPECIFIED TWICE.,RC=24
066E 'option' AND 'option' ARE CONFLICTING OPTIONS.',RC=24
070E INVALID PARAMETER 'parameter'.,RC=24
002E FILE 'fn ft fm' NOT FOUND.,RC=28
024E FILE 'XEDTEMP CMSUT1 A1' ALREADY EXISTS.,RC=28
069E DISK 'mode' NOT ACCESSED.,RC=36
229E UNSUPPORTED OS DATA SET.,RC=80,81,82,83
132S FILE 'fn ft fm' TOO LARGE.,RC=88
590E DATA SET TOO LARGE.,RC=88
104S ERROR 'nn' READING FILE 'fn ft fm' FROM DISK.,RC=100
```

Error messages with UPDATE options:

```
007E FILE 'fn ft fm' IS NOT FIXED, 80 CHAR. RECORDS.,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
174W SEQUENCE ERROR INTRODUCED IN OUTPUT FILE:
     '........' TO '........'. ',RC=32
179E MISSING OR DUPLICATE 'MACS' CARD IN CONTROL
     FILE 'fn ft fm'.
183E INVALID aux/ctl FILE CONTROL CARD.,RC=32
210W INPUT FILE SEQUENCE ERROR '........' TO '........'.,RC=32
597E UNABLE TO MERGE UPDATES CONTAINING './ S' CARDS.,RC=32
```

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/]...
  1   2      3      4                5
```

1 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.

2 "NOT" symbol (Locate something that is not the specified string.)

3 Character (or hexadecimal) string, enclosed in delimiters.

4 "OR" symbol (vertical bar) (Locate one string or another.)

5 Up to four strings may be specified.

For example:

```
/horse/
```

searches downward in the file, beginning with 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/
```

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'".

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"
   ```

Additional Notes:

1. 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, the line pointer remains unchanged.

2. 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 top of file).

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.

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.

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:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
```

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
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:

When you press the ENTER key, all uppercase letters within the current zones appear in lowercase (if your terminal is equipped with a lowercase feature.)

The last line translated becomes the new current line.

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=4
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
1 TOP 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

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.
```

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 numerals or special characters. It does not follow the usual parsing rule of separating alphabetic characters from immediately following digits or special 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.

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.

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, or TRANSFER subcommands:

APL	FType	PACK	SYNonym
ARBchar	HEX	PFn	TABLine
AUtosave	IMage	Point	TABS
CASE	IMPcmscp	PREfix	TERMinal
CMDline	LINENd	RANge	TEXT
COLPtr	LRecl	RECFm	TOFEOF
COLumn	MACRO	SCALe	TRunc
CURLine	MASK	SCReen	VARblank
ESCape	MSGMode	SERial	Verify
FILler	NONDisp	SPAN	VERShift
FMode	NULls	STAY	WRap
FName	NUMber	STReam	Zone

Usage Notes:

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.

Responses:

If the keyword specified is unknown or is an XEDIT variable that cannot be modified, an error message is displayed.

Error Messages:

```
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
545E MISSING OPERAND(S),RC=5
520E INVALID OPERAND : operand,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

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
546E TARGET NOT FOUND.,RC=2
509W USE GET AND/OR PUT(D) TO MOVE LINES IN UPDATE MODE.,RC=3
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

Return Codes:

0 Normal
1 Target line within the line to move
2 Target line not found
3 Move rejected in update-mode
5 Invalid or missing operands
6 Subcommand rejected in the profile due to LOAD error
8 Prefix area contains pending or incomplete subcommand

Examples:

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

```
 ANIMALS  FACTS    A1  V 80  TRUNC=80 SIZE=28 LINE=22 COLUMN=1

===== 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 COLUMN=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 3-6. 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, 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.

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

Examples:

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

```
PURIST   SCRIPT   A1  V 132  TRUNC=132 SIZE=12 LINE=5 COLUMN=1




===== * * * 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 COLUMN=1

===== "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 3-7. 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.

Response:

The first line that does *not* match the operand becomes the new current line.

Error Messages:

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

Return Codes:

0 Normal
2 No target line was found
5 Missing operands
6 Subcommand rejected in the profile due to LOAD error

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.

Response:

The first line that does *not* match the operand becomes the new current line.

Error Messages:

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

Return Codes:

0 Normal
2 No target line was found
5 Missing operands
6 Subcommand rejected in the profile due to LOAD error

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. 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 36 . . . :

   ```
   OVERLAYTTTcomment
   ```

   (where T represents a tab character)

Error Messages:

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

Return Codes:

0 Normal
3 Truncated
4 No line(s) changed
5 Missing operand(s)
6 Subcommand rejected in the profile due to LOAD error

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.

Usage Notes:

1. Before issuing the PARSE macro, you must place the line to be parsed in the console stack. For example,

   ```
   &STACK LIFO &ARGSTRING
   ```

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

(3) the starting column of the string itself (without the delimiter)

(4) the length of the string (with 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.

Notes for Macro Writers:

1. The PARSE macro always reads a line from the console stack, if there is one.
2. PARSE always stacks some information upon return, except when operands in the PARSE macro itself are not recognized.

   If the first keyword operand in the PARSE macro does not match the string to be parsed, a single line will be stacked. The line will contain "0", which indicates that no operands were matched and no more lines will be stacked.

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	The subcommand was rejected in the profile macro due to a LOAD error.

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 macro 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.)
5. If you want to cause a break in the data that you type in power typing 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 typing mode. When characters are inserted, the entire stream of data shifts to the right.

Responses:

In power input mode, the screen changes in the following ways:

- The first line of the screen contains the fileid and the heading,

  ```
  * * * POWER TYPING * * *
  ```

- The second line of the screen contains the current file line in protected format.
- The rest of the screen is blank.

Error Messages:

```
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=3
503E TRUNCATED,RC=4
557E NO MORE STORAGE TO INSERT LINE,RC=4
117S ERROR WRITING TO DISPLAY TERMINAL,RC=8
588E PREFIX SUBCOMMAND WAITING,RC=8
```

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
- 8 I/O error or prefix area contains pending or incomplete subcommand

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	PACK
AUTOSAVE	PREFIX
CASE	RECFM
ESCAPE	SERIAL
FILLER	SPAN
FMODE	STAY
FNAME	STREAM
FTYPE	SYNONYM (ON or OFF)
HEX	TABS
IMAGE	TOFEOF
LINEND	TRUNC
LRECL	VERIFY
MACRO	VARBLANK
MASK	WRAP
MSGMODE	ZONE
NULLS	=
NUMBER	

2. The following values are *not* saved:

   Current line pointer
   Column pointer
   Settings of:

APL	SCALE
CMDLINE	SCREEN
CURLINE	SYNONYM (current definition)
EOF	TABLINE
PF string	TEXT
RANGE	TOF

Error Messages:

```
554E NO STORAGE AVAILABLE,RC=3
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
3 No storage available
5 Invalid operands
6 Subcommand rejected in the profile due to LOAD error

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. The PURGE subcommand (and the automatic PURGE) cannot be issued from a macro.

Error Messages:

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

Return Codes:

0 Normal
3 Macro is not currently in storage
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error

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:

PUT	[*target* / 1 [*fn* / = [*ft* / = [*fm* / =]]]]

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.

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.
7. The line following the last line PUT (the target line) becomes the new current line.

Response:

If you are creating a file with the PUT subcommand, the following message is displayed.

```
571I CREATING NEW FILE
```

For a fixed format file, if a line(s) being PUT is larger than the logical record length of the file in which it is being inserted, the following message is displayed:

```
579R RECORDS WILL BE TRUNCATED TO nn.  CONTINUE
(YES/NO)?:
```

If you enter a NO reply, the following is displayed:

```
580W PUT NOT EXECUTED
```

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
554S NO STORAGE AVAILABLE.,RC=3
520E INVALID OPERAND : operand,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
037E DISK 'mode' IS READ ONLY.,RC=12
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
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; no PUT took place
3	No storage available
5	Invalid operands
6	Subcommand rejected in the profile due to LOAD error
8	Prefix area contains pending or incomplete subcommands
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 from wrbuf

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)

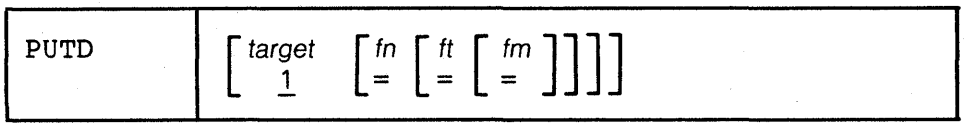
Refer to the "Examples" section of the GET subcommand for an example of how to use PUT and GET to transfer lines between files while editing multiple files.

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.

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.

For a fixed-format file, if a line(s) being inserted is larger than the logical record length of the file in which it is being inserted, the following message is displayed:

```
579R RECORDS WILL BE TRUNCATED TO nn.  CONTINUE
(YES/NO)?:
```

If you enter a NO reply, the following is displayed:

```
580W PUT NOT EXECUTED
```

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
554S NO STORAGE AVAILABLE.,RC=3
520E INVALID OPERAND : operand,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
037E DISK 'mode' IS READ ONLY.,RC=12
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
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; no PUT took place
3	No storage available
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error
8	Prefix area contains pending or incomplete subcommands
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 from wrbuf

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	APL	PF[n]
	ARBchar	POINT [*]
	AUtosave	PREfix
	CASE	RANge
	CMDline	RECFm
	COLPtr	RESERved
	COLumn	RING
	CTLchar [char]	SCALe
	CURLine	SCReen
	CURSor	Seq8
	EOF	SERial
	ESCape	SIDcode
	FILler	SIZe
	FMode	SPAN
	FName	STAY
	FType	STReam
	HEX	SYNonym [* | *name*]
	IMage	TABLine
	IMPcmscp	TABS
	LASTmsg	TARGet
	LENgth	TERMinal
	LIne	TEXT
	LINENd	TOF
	LRecl	TOFEOF
	LScreen	TRunc
	MACRO	UPDate
	MASK	VARblank
	MSGMode	Verify
	NBFile	VERShift
	NONDisp	Width
	NULls	WRap
	NUMber	Zone
	PACK	=

where:

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.

CASE
displays the case setting ("U" or "M") and "R" or "I" as defined in the SET CASE subcommand.

CMDline
displays the screen command line number defined by the SET CMDLINE subcommand.

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 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 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 attribute2". If no attributes were defined for the character, displays "CTLCHAR char".

CURLine
displays the line number of the current line relative to the top of the screen, as defined 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 in a protected area, two negative numbers (-1) are displayed for the position of the cursor in the file.

EOF
displays "ON" or "OFF" as determined by the editor. EOF is "ON" when the line pointer reaches end of file.

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.

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.

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).

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.

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.

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.

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

PF[n]
displays the PF key settings for all the PF keys, or, if n is specified, for a specified PF key number.

Point[*]
QUERY POINT displays the symbolic name associated with the current line, or displays a blank string if no SET POINT has been executed for this line. QUERY POINT * displays all symbolic names that have been defined, starting at the top of the file.

PREfix
displays "ON" or "OFF" and "RIGHT" or "LEFT" as specified in the SET PREFIX subcommand.

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.

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:
```
nn FILE(S) IN STORAGE.
```

The following information is displayed for each file:

fn ft fm recfm lrecl TRUNC=*truncno* SIZE=*sizeno* LINE=*lineno* COLUMN=*colno*

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.

SCALe
displays "ON" or "OFF" as specified in the SET SCALE subcommand; if the scale is on the screen, displays the line number of the scale.

SCReen
displays the number of lines in each logical screen, in the form "SIZE n1 n2 n3...", where the first screen uses n1 lines, the second screen uses n2 lines, etc.

Seq8
displays "OFF" if the XEDIT command 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.

SIDcode
displays the eight-character string specified in the SIDCODE option of the XEDIT command or the LOAD 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.

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 (that is, 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. (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 n as defined in the SET TABLINE 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: line and column number of the first character in the string; line and column number of the last character in the string.

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).

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 the top of file.

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

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

UPDate
displays "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
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.

`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.

Notes for Macro Writers:

The QUERY subcommand and the TRANSFER subcommand provide the same list of keyword operands.

Error Messages:

```
538E NO NAME DEFINED,RC=3
520E INVALID OPERAND : operand,RC=5
525E INVALID PFKEY NUMBER,RC=5
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

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 the warning message to be displayed. 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 has no effect. When control is returned to the editor, you must issue a QUIT.

3. To return control directly to CMS, you can issue the following EXEC 2 statement:

   ```
   &STACK LIFO QUIT
   ```

   When the macro completes its execution, control is returned to CMS.

   If a return code is specified, for example, &STACK LIFO QUIT n, the return code becomes the XEDIT command return code.

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.
```

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:

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

Return Codes:

0	Normal
1	Only one file was edited
5	Invalid operand or number
6	Subcommand rejected in the profile due to LOAD error
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, the macro has access to the stacked information via the EXEC 2 &READ control statement, for example.

The format of the READ subcommand is:

```
READ    Cmdline                  [ TAG   ]
        All [NUMBER]             [ NOTAG ]
        Nochange [NUMBER]
```

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.
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 a PF key or the ENTER key. Pressing the CLEAR, PA1, or PA2 key does not terminate a READ. (Pressing the CLEAR key clears any data that was typed since the last time the ENTER key or a PF key was pressed; the PA1 key forces CP mode; and the PA2 key is ignored.)
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 or the ENTER key.

   Pressing a PF key causes the current value of that PF key to be stacked. (However, if a PF key is set to COPYKEY or TABKEY, the PF key value is not stacked.) The command line is always stacked as the last line, unless the PF 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 may contain two lines:

a. PF key value (if a PF key was pressed)
b. command line

(If the command line was changed and the ENTER key was pressed, only the command line is stacked.)

If nothing was entered on the command line and the ENTER key is pressed, one of the following is stacked:

- a null line (if NOTAG was specified)
- 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 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. PF key value (if a PF key was pressed)
b. lines and prefix areas changed on the screen (if any)
c. command line

If nothing was changed on the screen and the ENTER key is pressed, one of the following is stacked:

- a null line (if NOTAG was specified)
- 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
   FIL - file line
   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.

   - 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.)

- 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:

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

Return Codes:

0 Normal
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error

RECOVER

Use the RECOVER subcommand to replace a specified number of lines that were removed by a DELETE 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 or 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), no lines can be recovered. Update mode is in effect when one of the following options is specified with the XEDIT command: UPDATE, SEQ8, NOSEQ8, CTL, MERGE, INCR.

Response:

The line(s) that is recovered is inserted just before the current line. The following message is displayed:

```
502I nn LINE(S) RECOVERED.
```

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

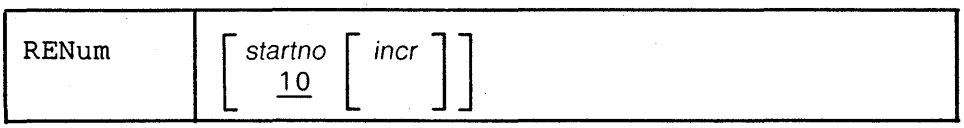
Return Codes:

0 'n' lines have been inserted
3 Pool of deleted line is empty
5 Invalid operand or number
6 Subcommand rejected in the profile due to LOAD error
8 Prefix area contains pending or incomplete subcommand

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 compatibility mode; XEDIT does not perform line number editing.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
535E INVALID PARMS FOR RENUM.,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
(See also EDIT messages.)
```

Return Codes:

0 Normal
5 Invalid operands
6 Subcommand rejected in the profile due to LOAD error

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 lines that the REPEAT subcommand executes upon, starting on the line following the current line, up to but not including the target line. 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
   =
   ```

Response:

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

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

nn	Same as the repeated subcommand's return codes
1	TOF or EOF reached
2	Target not found
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error

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 Note:

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.

Responses:

When you issue a REPLACE subcommand with no operand, the following message is displayed:

```
573I INPUT MODE:
```

Error Messages:

```
503E TRUNCATED,RC=3
557S NO MORE STORAGE TO INSERT LINES.,RC=4
588E PREFIX SUBCOMMAND WAITING...,RC=8
```

Return Codes:

- 0 Normal
- 3 Line was truncated
- 4 Not enough storage to accomodate added lines
- 6 Subcommand rejected in the profile due to LOAD error
- 8 Prefix area contains pending or incomplete subcommand

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 when the screen is in a "pending" or "incomplete" status.

The format of the RESET subcommand is:

RESet	

Usage Notes:

1. The RESET subcommand removes all prefix subcommands when the screen displays a "COPY/MOVE PENDING" or "BLOCK INCOMPLETE" status.
2. To remove prefix subcommands when the screen is not in a pending or incomplete status, press the CLEAR key.

Response:

The original prefix area (equal signs or line numbers) replaces any prefix subcommands that were typed in.

Error Messages:

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

Return Codes:

0 Normal
5 Invalid operands
6 Subcommand rejected in the profile due to LOAD error

Examples:

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.

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

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 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.
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 shifted cannot exceed the logical record length.

Notes for Macro Writers:

Use TRANSFER VERSHIFT to place the value of n (plus or minus) in the console stack so that it can be used by a macro.

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

Examples:

Figure 3-8 is a before-and-after example of the RIGHT subcommand.

```
OGDEN    NASH     A1  V 80  TRUNC=80 SIZE=28 LINE=20 COLUMN=1
=====
===== 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 COLUMN=1
=====
===== 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 3-8. 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:

SAVE	[*fn* [*ft* [*fm*]]] = = =

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 specify a new file identifier, any existing file with the same file identifier is replaced; no message is issued.
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:

```
520E INVALID OPERAND : operand,RC=5
598S UNABLE TO BUILD UPDATE FILE : INTERNAL LIST
     DESTROYED.,RC=7
599S UNABLE TO BUILD UPDATE FILE : SERIALIZATION
     DESTROYED.,RC=7
037E DISK 'mode' IS READ ONLY.,RC=12
531E DISK IS FULL. SET NEW FILEMODE OR CLEAR SOME
     DISK SPACE.,RC=13
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
```

Return Codes:

0	Normal
5	Invalid operand
6	Subcommand rejected in the profile due to LOAD error
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

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 only when it has been assigned to a PF key and only when a CHANGE or CLOCATE subcommand (in the format CLOCATE/string/) 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.)

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.
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.

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 and the first PF key is pressed, the following message is displayed when a string is located:

```
551I STRING string1 FOUND.
```

If a CHANGE subcommand is typed in the command line 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, the following message is displayed:

```
569E NO "CHANGE" OR "CLOCATE"
     SUBCOMMAND SPECIFIED,RC=5
```

Error Messages:

```
561E CURSOR IS NOT ON A VALID DATA FIELD
529E SUBCOMMAND IS ONLY VALID IN DISPLAY MODE,RC=1
586E NOT FOUND ON SCREEN,RC=2
520E INVALID OPERAND: operand,RC=5
525E INVALID PFKEY NUMBER,RC=5
545E MISSING OPERAND(S),RC=5
574E CHANGE NOT VALID {WITH CLOCATE|AFTER CURSOR MOVEMENT}
```

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

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.

APL	LRecl	SPAN
ARBchar	MACro	STAY
AUtosave	MASK	STReam
CASE	MSGMode	SYNonym
CMDline	NONDisp	TABLine
COLPtr	NULLs	TABS
CTLchar	NUMber	TERMinal
CURLine	PACK	TEXT
ESCape	PFn	TOFEOF
FILler	Point	TRunc
FMode	PREfix	VARblank
FName	RANge	Verify
FType	RECFm	WRap
HEX	RESERved	Zone
IMage	SCALe	=
IMPcmscp	SCReen	
LINENd	SERial	

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 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:

according to 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.
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:

```
524W NONDISP CHARACTER RESET TO BLANK.
526E OPTION 'APL' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
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

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 $ as 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 column1.)

Example:

`CHANGE /$A/A/`

deletes all characters that precede A.

string1: `/B$/`

The $ means, "the string starting with the character following B and ending at 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
```

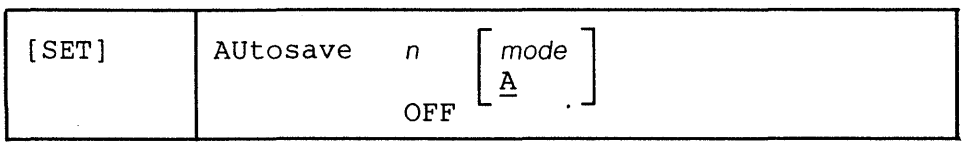
Return Codes:

- 0 Normal
- 5 Missing or invalid operand
- 6 Subcommand rejected in the profile due to LOAD error

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.
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 rename the AUTOSAVE file and resume editing; the file will reflect all changes made up to the time of the last AUTOSAVE.
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.

Notes for Macro Writers:
You can use the TRANSFER AUTOSAVE subcommand to stack 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.

If no other AUTOSAVE file exists, the filename and filetype are:

```
1  AUTOSAVE
```

If an AUTOSAVE file exists, the filename is the next available number.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
037E DISK 'mode' IS READ ONLY,RC=12
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
```

Return Codes:

0	Normal
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error.
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:

```
[SET]   CASE    Uppercase [Respect]
                Mixed     [Ignore ]
```

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). U is the default value for all filetypes except SCRIPT and MEMO.

`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:

`Mixed Respect` (for SCRIPT and MEMO files)
`Uppercase Respect` (for all other filetypes)

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

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 Top Bottom

where:

On
defines the last two lines of the screen as the command input lines.

Top
defines the top of the screen as the command line (same line as the message line).

Bottom
defines the last line on the screen as the command input line.

Initial Setting:

CMDLINE ON

Usage Note:

When CMDLINE is set to TOP or BOTTOM, no XEDIT status area is displayed.

Error Messages:

```
526E OPTION 'CMDLINE' VALID IN DISPLAY MODE ONLY,RC=3
520E INVALID OPERAND : operand,RC=5
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

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

SET CTLCHAR

Use the CTLCHAR option to define a control character(s), which specifies that part of a reserved line is to be displayed with or without the following features:

- 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    [ High | Nohigh | Invisible ]
                       Noprotect
                OFF
```

where:

`char`
is any character, 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.

`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.

`High`
specifies that the string following "char" is to be displayed highlighted. This operand must be used with PROTECT or NOPROTECT.

`Nohigh`
specifies that the string following "char" is to be displayed not highlighted (normal intensity). This operand must be used with PROTECT or NOPROTECT.

`Invisible`
defines a field where the characters are not displayed, for example, a password. This operand must be used with PROTECT or NOPROTECT.

Initial Setting:

No control characters are defined. CTLCHAR is set OFF.

Notes for Macro Writers:

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.

Error Messages:

```
526E OPTION 'CTLCHAR' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND: operand, RC=5
545E MISSING OPERAND(S), RC=5
554E NO STORAGE AVAILABLE., RC=104
```

Return Codes:

0	Normal
3	Operand is valid only for display terminal
5	Missing or invalid operand
104	No storage available

Examples:

The following subcommands are issued:

```
SET CTLCHAR ! ESCAPE
```

Defines ! as a control character escape. 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 escape, the data that follows it is displayed protected and highlighted.

```
SET CTLCHAR " PROTECT NOHIGH
```

When " appears in the text, preceded by the control character escape, the data that follows it is displayed protected and not highlighted.

```
SET RESERVED 3 NOH This is an !%example!" of selective
highlighting.
```

When the screen is displayed, the word "example" is highlighted on line 3.

SET CURLINE

Use the CURLINE option to define the nth line of the screen as the current line.

The format of the SET CURLINE subcommand is:

[SET]	CURLine ON *n*

where:

n
is the screen line number that is to be the current line.

Initial Setting:
CURLINE ON *n*
n = middle of the screen

Usage Note:
Remember that the editor uses the first two lines of the screen; if you want the current line to be the first available screen line, use SET CURLINE ON 3.

Error Messages:
```
526E OPTION 'CURLINE' VALID IN DISPLAY MODE ONLY,RC=3
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
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

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
(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

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

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 (0-5). 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, that file is replaced when a FILE or SAVE is issued; no warning message is issued.
3. If the filemode specified is that of a read-only disk, and an attempt is made to file or save the file, the editor displays an error message.

Error Messages:

```
555E FILE 'fn ft fm' ALREADY IN STORAGE,RC=4
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
048E INVALID MODE 'mode'.,RC=24
069E DISK 'mode' NOT ACCESSED.,RC=36
```

Return Codes:

0	Normal
4	File already in storage
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error
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, that file is replaced; no warning message is issued.

Error Messages:

```
555E FILE 'fn ft fm' ALREADY IN STORAGE,RC=4
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
062E INVALID CHARACTER IN FILEID 'fn ft fm',RC=20
```

Return Codes:

0	Normal
4	File already in storage
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error
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:

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.

Error Messages:

```
555E FILE 'fn ft fm' ALREADY IN STORAGE,RC=4
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
062E INVALID CHARACTER IN FILEID 'fn ft fm'.,RC=20
```

Return Codes:

0	Normal
4	File already in storage
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error
20	Invalid character in the string proposed as filetype

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

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:

IMAGE ON (all filetypes except SCRIPT)
IMAGE CANON (SCRIPT files)

Usage Notes:

The following subcommands are affected by the IMAGE setting:

- 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

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

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, without changing the character currently defined.

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

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.

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
3. Refer to the LOAD subcommand for more details on the initial setting of LRECL during profile execution.

Initial Setting:

Based on filetype. See "Appendix A".

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

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

SET MASK

Whenever a new line is inserted in a file (whether by the ADD subcommand, the A prefix subcommand, or the INPUT 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:

The TRANSFER MASK subcommand places the current mask in the console stack.

Error Messages:

```
526E OPTION 'MASK' VALID IN DISPLAY MODE ONLY,RC=3
520E INVALID OPERAND : operand,RC=5
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

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 3-9 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:

```
===>                                          /*                          */
                                                                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 COLUMN=2
INPUT MODE:




* * * TOP OF FILE * * *
.|..+....1....+....2....+....3....+....4....+....5....+....6....+....7.>..+....
                                      /*                          */
                                      /*                          */
                                      /*                          */
                                      /*                          */
                                      /*                          */
                                      /*                          */
                                      /*                          */
                                      /*                          */
                                      /*                          */
===> * * * INPUT ZONE * * *
                                                      INPUT-MODE 1 FILE
```

Figure 3-9. Using the SET MASK Subcommand

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

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, TRANSFER LASTMSG can be used to get the last message generated.

2. If multiple messages 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. In this case, the SET CMSTYPE command setting determines whether or not the messages are 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

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.

Usage Notes:

1. The non-displayable character may be specified in hexadecimal if SET HEX ON is in effect.
2. Setting non-displayable characters to a visible one, for example, SET NONDISP ", is helpful when doing full screen changes on display terminals. When changing lines on the display, XEDIT tries to preserve non-displayable characters within modified lines by comparing the line returned from the terminal with its old contents. This may lead to unexpected changes, particularly if the DELETE or INSERT keys are used.

Initial Setting:

The initial setting is a blank.

Error Messages:

```
526E OPTION 'NONDISP' VALID IN 3270 MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
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

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 the PA2 key instead of issuing SET NULLS ON if you wish to use the insert key for only one line. The PA2 key 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 PA2 key again.
2. If either the WIDTH option on the XEDIT command or a SET VERIFY subcommand is set to a value less than the screen width, you can use the insert key to insert characters with SET NULLS OFF.

Error Messages:

```
526E OPTION 'NULLS' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
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

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.

Initial Setting:

NUMBER OFF

Error Messages:

```
526E OPTION 'NUMBER' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
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

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 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

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:

[SET]	PF*n* [*string* / TABKEY / COPYKEY]

where:

n
specifies a PF key number. If SET PFn is issued (without an additional operand), the meaning associated with that PF key is removed.

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.

TABKEY
When the corresponding PF key is pressed, the cursor is moved into the next tab column, as defined by the SET TABS subcommand. This is the initial setting for the PF4 key.

COPYKEY
When the corresponding PF key is pressed, the exact content of the current physical screen is copied into the printer spool.

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. To get the same effect as a CP SET PF DELAY, use:

   ```
   SET PFn CMSG...
   ```

3. PF keys may be used in input mode. (See the "Usage Notes" section of the INPUT subcommand.)
4. When you use a PF key set to COPYKEY, you should close the printer at the end of the editing session.
5. When a PF key is pressed, its definition is executed before any commands entered in the command line. TABKEY and COPYKEY are executed immediately, and any commands typed in the prefix area or the command line are not executed.

Initial Setting:

```
SET PF01 HELP MENU
SET PF02 SOS LINEADD
SET PF03 QUIT
SET PF04 TABKEY
SET PF05 SCHANGE 6
SET PF06 ?
SET PF07 BACKWARD
```

```
SET PF08 FORWARD
SET PF09 =
SET PF10 SPLIT CURSOR
SET PF11 JOIN CURSOR
SET PF12 CURSOR COLUMN
```

In addition, the PA2 key is permanently assigned to SOS NULLS ON.

Note: 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.

Error Messages:

```
520E INVALID OPERAND : operand,RC=5
525E INVALID PFKEY NUMBER,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

SET POINT

Use the POINT option to define (or redefine) a symbolic name for the current line. You can use this name 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 alphameric 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. After a symbolic name is defined for a line, the name does *not* appear in the prefix area, as the line number does. You must keep track of symbolic names.

4. 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.

5. You can use the QUERY POINT subcommand to display the symbolic name of the current line. You can use QUERY POINT * to display all symbolic names that have been defined.

Notes for Macro Writers:

The TRANSFER POINT subcommand places the symbolic name of the current line in the console stack.

Error Messages:

```
540E NAME ALREADY DEFINED ON LINE 'nn'.,RC=1
539E NAMED LINE NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
541E INVALID NAME,RC=5
545E MISSING OPERAND(S),RC=5
554E NO STORAGE AVAILABLE.,RC=104
```

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
104	No storage available

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
	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 can then be entered in the prefix area.

OFF
: removes the prefix area from the screen.

Synonym
: is the keyword operand that indicates a synonym is to be defined for a prefix subcommand.

newname
: is a synonym to be assigned to a prefix subcommand. The new name must be one alphabetic character.

oldname
: is the name of a prefix subcommand for which you are defining a synonym. It must be one alphabetic character.

Initial Setting:

PREFIX ON LEFT
No prefix synonyms are defined.

Usage Note:

Synonyms cannot be defined for the prefix subcommands SCALE or TABL.

Error Messages:

```
526E OPTION 'PREFIX' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
545E MISSING OPERAND(S),RC=5
548E INVALID SYNONYM OPERAND: operand,RC=5
554E NO STORAGE AVAILABLE,RC=104
```

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
104	No storage available

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.

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). The BOTTOM subcommand moves the line pointer to the line before target2. Target2 becomes the equivalent of the EOF 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 :1 *
```

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
528E INVALID RANGE : TARGET2 (LINE nn)
     PRECEDES TARGET1 (LINE nn).,RC=5
545E MISSING OPERAND(S),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

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:

```
516E LRECL TOO LARGE FOR V-FORMAT FILE.,RC=4
515E RECFM MUST BE F|V|FP|VP.,RC=5
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

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, which can be highlighted. 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	[±|-]	*n*	High [*text*] Nohigh [*text*] Off

where:

n
specifies the line number that is to be reserved.

+n (the default) indicates that the line number is relative to the top of the screen. -n indicates that the line number is relative to the bottom of the screen. For example, -1 indicates the last line on the screen.

`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.

text
specifies the information that is to be displayed in the reserved line.

`Off`
indicates that a line (n) reserved previously is to be returned for use by the editor.

Usage Note:
The QUERY RESERVED subcommand may be used to display the line numbers of reserved lines.

Notes for Macro Writers:

1. The TRANSFER RESERVED subcommand places one line, containing the reserved line numbers, in the console stack.
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.
4. When turning a reserved line off, you must specify "n" the same way you defined it (either plus or minus).
5. If you reduce the logical screen size (for example, by splitting the screen), only those reserved lines that fall within the smaller screen screen size are displayed. The definition of lines that do not fit on the screen are kept, even though they are not displayed.
6. A SET RESERVED subcommand may be issued for the command line, after which no input is accepted from the command line. If SET CMDLINE ON is in

effect, the command line occupies two lines. Issuing a SET RESERVED for the first line reserves both of the lines.

7. For information on defining various attributes for fields within a reserved line, see the SET CTLCHAR subcommand.

Response:

The information specified in the text operand, if any, appears on the nth line of the screen.

Error Messages:

```
526E OPTION 'RESERVED' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
533E LINE 'nn' IS NOT RESERVED,RC=4
521E INVALID LINE NUMBER,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
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

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 [*n*] OFF

where:

ON
displays the scale on the screen.

OFF
removes the scale from the screen.

n
is a line number on the screen where the scale is to be displayed.

Initial Setting:

SCALE ON n, where n is the line under the current line.

Usage Notes:

1. The scale looks like this:

```
<...+..|.1....+....2....+....3.>..+....4T...+....5....+....6....+.
.      .                        .        .
.      .                        .        .
.      .column pointer          .        .
.                               .        .truncation column
.left zone                      .right zone
```

2. If the current line occupies more than one screen 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:

```
526E OPTION 'SCALE' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
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

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, status area, and message line.

The format of the SET SCREEN subcommand is:

[SET]	SCReen *n* Size *n1* [*n2*]...

where:

n
specifies the number of logical screens that the physical screen is to be divided into. The logical screens must be at least five lines long.

n1 n2...
specifies the number of lines for each logical screen, thus making it possible to have logical screens of different sizes.

Initial Setting:

SCREEN SIZE *n1*, where n1 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.

2. If the number of logical screens is decreased due to a SET SCREEN subcommand, files will still be displayed, beginning with the top of the physical screen, as long as logical screens are available. Those files for which logical screens are no longer available are removed from the display.

3. When adding a logical screen, you can control which file is to be displayed. For example, if two files are already displayed, the following subcommands will add a third screen, which will display the file "A LISTING".

   ```
   SCR 3#SOS TABCMDF # XEDIT A LISTING
   ```

4. The SET SCREEN subcommand retains the CURLINE, SCALE, TABLINE, and CMDLINE locations on the screens provided that these settings fall within the new screen size. Otherwise, the default settings are used.

Responses:

The status area of each logical screen contains the number of files being edited.

If the number of screens specified (n) is too large for the physical screen, the editor issues the message:

```
534E TOO MANY LOGICAL SCREENS DEFINED.
```

Error Messages:

```
536E NUMBER OF LINES EXCEEDS PHYSICAL SCREEN SIZE.,RC=1
526E OPTION 'SCREEN' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
534E TOO MANY LOGICAL SCREENS DEFINED,RC=4
537E EACH LOGICAL SCREEN MUST CONTAIN AT LEAST 5 LINES,RC=4
543E INVALID NUMBER : xxxxxxxx,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
1 The total number of lines for the multiple logical screens exceeds the physical screen size
3 Operand is valid only for display terminal
4 Each logical screen must contain at least 5 lines
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error

SET SERIAL

Use the SERIAL option to control file serialization.

The format of the SET SERIAL subcommand is:

[SET]	SERial ON [*incrno* 10 [*startno* 10]] ALL [*incrno* 1000 [*startno* 1000]] *string* [*incrno* 10 [*startno* 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.

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 *
```

Initial Setting:

Based on filetype. See "Appendix A".

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 ROOM 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

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

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 target search, FIND, FINDUP, NFIND, or NFINDUP is not found.

The format of the SET STAY subcommand is:

[SET]	STAY ON OFF

where:

ON
specifies that the line pointer is *not to move* if a search is unsuccessful. The current line stays the same as before the search occurred.

OFF
specifies that 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 becomes the new current line if the search was in a backward direction.

Initial Setting:

STAY OFF

Usage Notes:

1. SET STAY applies to target searches and FIND family searches issued to the end of file (or range).
2. SET STAY applies also to the CHANGE subcommand. With SET STAY OFF, the last line examined becomes the new current line; with SET STAY ON, the line pointer does not move when the CHANGE 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

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

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 (except prefix subcommands) or macro and, optionally, to define an abbreviation for the synonym. (You must use the SET PREFIX subcommand to define a synonym for a prefix subcommand.)

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. For example, if the synonym represents an EDGAR subcommand to be used in EDGAR compatibility mode, you can enter the synonym with its operands in the order normally expected by EDGAR. The operands are automatically rearranged into the order expected by XEDIT.

The format of the SET SYNONYM subcommand is:

[SET]	SYNonym	ON OFF
	SYNonym	*newname* [*n*] *oldname*
	SYNonym	*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.

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 represent 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 HEXTYPE     4 HEXTYPE
SET SYNONYM JOIN        1 JOIN
SET SYNONYM MODIFY      3 MODIFY
SET SYNONYM POWERINP    3 POWERINP
SET SYNONYM QUIT        4 COMMAND PQUIT
SET SYNONYM QQUIT       2 COMMAND QUIT
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.

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
554E NO STORAGE AVAILABLE.,RC=104
```

Return Codes:

0	Normal
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error
104	No storage available

Examples:

Simple form:

```
1. SYN DOWN 1 UP
2. SYN DSPF QUERY PF
```

Complex form:

```
1. SYN PUTFILE 3 & & & & PUT &4 &1 &2 &3
```

This example allows you to enter the subcommand the way you normally would enter the PUT subcommand under EDGAR:

PUT *fn ft fm n*

The editor rearranges the subcommand as follows:

PUT *target fn ft fm*

Target is limited to an integer value (n) or .xxxx as specified by EDGAR syntax.

```
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.

The format of the SET TABLINE subcommand is:

[SET]	TABLine ON [*n*] OFF

where:

ON
displays the tab line.

n
specifies the line in which the tab line is to be displayed.

OFF
removes the tab line from the screen.

Initial Setting:
TABLINE OFF *n*, where *n* is immediately above the command line.

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:

```
526E OPTION 'TABLINE' VALID IN DISPLAY MODE ONLY,RC=3
520E INVALID OPERAND : operand,RC=5
521E INVALID LINE NUMBER,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
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

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.

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.

Initial Setting:

Based on filetype. See "Appendix A".

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

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 a SET TERMINAL DISPLAY subcommand after you reconnect and issue BEGIN. Otherwise the editor resumes editing your file in line mode.

Error Messages:

```
526E OPTION 'TERMINAL' VALID IN DISPLAY MODE ONLY.,RC=3
520E INVALID OPERAND : operand,RC=5
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

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 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.

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:

```
524W NONDISP CHARACTER RESET TO BLANK.
526E OPTION 'TEXT' VALID IN DISPLAY MODE ONLY,RC=3
520E INVALID OPERAND : operand,RC=5
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

SET TOFEOF

Use the TOFEOF option to control the display of the following null lines:

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

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 is to occur. If you specify an asterisk (*), the truncation column is set to the record length for the filetype.

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.

Initial Setting:

Based on filetype. See "Appendix A".

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

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

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] [[H] *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.)

H
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 14 pairs of columns may be specified. For example:

   ```
   V 1 20 40 50
   ```

   displays columns 1 through 20, and 40 through 50.

   However, when multiple pairs of columns are specified, the results of some subcommands (for example, SET TABLINE ON) may be unpredictable.

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.

4. In multiple views of the same column, if changes are made on the screen the right-most change is the effective one.

5. The columns specified in a SET VERIFY subcommand override any RIGHT or LEFT subcommand that was in effect.

6. 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.)

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 WIDTH 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

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, or a target search.

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

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.)

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.
- If the current setting of the column pointer is greater than zone2, it moves to the column defined by zone2.

Initial Setting:

The ZONE is set from column 1 up to the truncation column.

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

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*

Error Messages:

```
545E MISSING OPERAND(S),RC=5
```

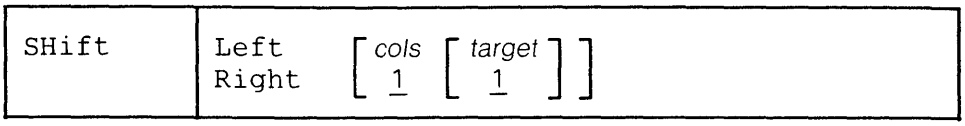
Return Codes:

0 Normal
5 Missing or invalid operand
6 Subcommand rejected in the profile due to LOAD error

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 column one 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 is lost. 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. The line pointer is moved to the last line shifted. The column pointer is not affected by SHIFT.

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
504E nn LINE(S) TRUNCATED.,RC=3
585E NO LINE(S) CHANGED,RC=4
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER,RC=5
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
1 TOP or EOF reached during execution
2 Target line not found
3 Lines truncated
4 No lines changed
5 Invalid operands
6 Subcommand rejected in the profile due to LOAD error

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. If the SORT macro is used while in update mode, the changes made by SORT will not be reflected in the update file. If the only changes to the file are those made by SORT, no update file is created.

Error Messages:

```
546E TARGET NOT FOUND,RC=2
520E INVALID OPERAND: operand,RC=5
545E MISSING OPERAND(S),RC=5
588E PREFIX SUBCOMMAND WAITING...,RC=8
009E COLUMN EXCEEDS RECORD LENGTH,RC=24
053E INVALID SORT FIELD PAIR DEFINED,RC=24
063E NO SORT LIST GIVEN,RC=40
554E NO STORAGE AVAILABLE,RC=104
```

Return Codes:

0	Normal
1	TOF or EOF reached during execution
2	Target line not found
5	Missing or invalid operand
6	Subcommand rejected in the profile due to LOAD error
8	Prefix area contains pending or incomplete subcommand
24	Invalid columns defined
40	No list given
104	No storage available

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 BField *n* CLEAR Down *n* Left *n* LINEAdd LINEDel NField *n* NLine *n* NUlls NUlls On NUlls OFF PF*n* POP PUsh Right *n* TABB *n* TABCmd TABCMDB TABCMDF TABF *n* Up *n*

where:

ALarm
Ring the terminal alarm the next time the display is refreshed.

BField *n*
Reposition the cursor as if the back field key had been depressed n times. The default is one (1).

CLEAR
Clears the CMS console stack and forces a display refresh.

Down *n*
Move the cursor down n lines on the virtual screen. The default is one (1).

Left *n*
Move the cursor n places to the left. The default is one (1).

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.

NField *n*
Move the cursor to the next 3270 field n times. The default is one (1).

NLine *n*
Depress the "new line" key n times. The default is one (1).

NUlls
Reverse the current setting of the "nulls" option for the 3270 field in which the cursor is located.

NUlls On
Change the trailing blanks to "nulls" for the 3270 field in which the cursor is located. (The PA2 key is permanently assigned to SET NULLS ON.)

NUlls OFF
Change the trailing "nulls" to blanks for the 3270 field in which the cursor is located.

PF*n*

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.)

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.

Right *n*

Move the cursor n positions to the right on the virtual screen. The default is one (1).

TABB *n*

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

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

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*

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.

Up *n*

Move the cursor up n lines. The default value for n is one (1).

Usage Note:

Any operand that is not recognized is ignored.

Error Messages:

```
561E CURSOR IS NOT ON A VALID DATA FIELD.,RC=3
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
3 Cursor is not on a valid data field
5 Missing operands
6 Subcommand rejected in the profile due to LOAD error

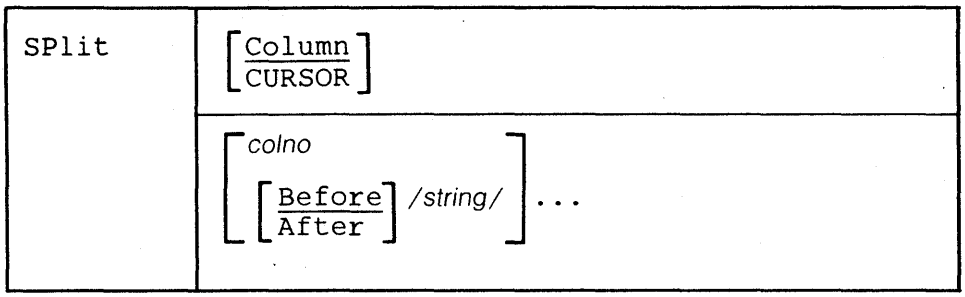
SPLIT (Macro)

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:

`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. The PF10 key is initially set to SPLIT CURSOR.

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.
3. The cursor or the column number or string specified must fall within the current zones.

Responses:

The last line added due to a SPLIT becomes the new current line.

If a specified string is not found, an error message is issued and the current line remains the same.

Error Messages:

```
585E NO LINE(S) CHANGED,RC=1
586E NOT FOUND,RC=2
561E CURSOR IS NOT ON A VALID DATA FIELD,RC=3
526E OPTION 'CURSOR' VALID IN DISPLAY MODE ONLY, RC=3
557E NO MORE STORAGE TO INSERT LINE,RC=4
575E INVALID SPLIT COLUMNS DEFINED,RC=5
588E PREFIX SUBCOMMAND WAITING,RC=8
```

Return Codes:

0 Normal
1 No change (SPLIT issued at TOF or EOF)
2 Not found
3 Cursor is not on a valid data field
4 No more storage
5 Invalid operands
6 Subcommand rejected in the PROFILE due to LOAD error
8 Prefix area contains pending or incomplete subcommand

Examples:

Current Line:

```
===== Electric eels can discharge bursts of 625 volts.
```

Note the cursor position above. Press the PF key assigned to SPLIT CURSOR (PF10).

```
===== 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 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 a result of the split.

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:

STAck	[*target* 1 [*startcol* 1 [*length* *]]]

where:

target
defines the number of lines to be stacked. Lines are stacked starting with the current line, up to but not including target. 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 whole line is stacked.

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 256 bytes.
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:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,RC=5
543E INVALID NUMBER : xxxxxxxx,RC=5
```

Return Codes:

0 Normal
1 TOP 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

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 and their current settings.

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 (except for PF, POINT, RESERVED, and =) and their current settings. 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 for PF, POINT, RESERVED, and =.
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.

Responses:

```
7031 FILE 'filename XEDIT A1' CREATED.
```

Error Messages:

```
520E INVALID OPERAND(S) : operand,RC=5
024E FILE 'filename XEDIT A' ALREADY EXISTS,RC=28
```

Return Codes:

0	Normal
5	Invalid operand
6	Subcommand rejected in the PROFILE due to LOAD error
28	Filename specified already exists

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 Notes:

1. 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.
2. CLOCATE should also be preceded by TOP if a string to be located might be in column one of the first 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 Messages:

```
520E INVALID OPERAND(S) : operand,RC=5
```

Return Codes:

1 Top of file reached
5 Invalid operand
6 Subcommand rejected in the profile due to LOAD error

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.

The format of the TRANSFER subcommand is:

TRAnsfer	APL	PF*n*
	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.

COLPtr
transfer "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 char".

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 "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.

PF*n*
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" or "OFF" 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 SIZE subcommand.

Seq8
transfers "OFF" if the XEDIT command was issued with the NOSEQ8 operand; if not, transfers "ON".

SERial
transfers the serial identification, 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 Messages:

```
545E MISSING OPERAND(S),RC=5
```

Return Codes:

0 Normal
5 Invalid operand specified; no information is stacked
6 Subcommand rejected in the profile due to LOAD error

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 up to 130 characters for each record (the maximum length supported by CMS). If the line is longer, it is displayed truncated.

Response:

The specified lines are displayed.

The line pointer moves to the last line typed.

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
520E INVALID OPERAND : operand,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

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

Examples:

Figure 3-10 is a before-and-after example of the UP subcommand.

```
 PURIST   SCRIPT   A1  V 132  TRUNC=132 SIZE=12 LINE=8 COLUMN=1

===== * * * 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 COLUMN=1




===== * * * 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."
===>
                                                        X E D I T  1 FILE
```

Figure 3-10. 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:

When you press the ENTER key, all lowercase letters within the current zones appear in uppercase.

The last line translated becomes the new current line.

Error Messages:

```
546E TARGET NOT FOUND.,RC=2
585E NO LINE(S) CHANGED,RC=2
520E INVALID OPERAND : operand,RC=5
```

Return Codes:

0 Normal
1 TOP 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

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.

3. When the screen is divided into multiple logical screens (see the SET SCREEN subcommand), entering the XEDIT subcommands with the same fileid from two (or more) logical screens creates two (or more) independent views of the same file.

4. 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.

5. 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:

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

Error Messages with UPDATE Options:

```
007E FILE 'fn ft fm' IS NOT FIXED, 80 CHAR. RECORDS.,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
174W SEQUENCE ERROR INTRODUCED
     IN OUTPUT FILE: '........' TO '........'. ',RC=32
179E MISSING OR DUPLICATE 'MACS' CARD
     IN CONTROL FILE 'fn ft fm'.
183E INVALID aux/ctl FILE CONTROL CARD.,RC=32
210W INPUT FILE SEQUENCE ERROR '........' TO '........',RC=32
597E UNABLE TO MERGE UPDATES CONTAINING './ S' CARDS.,RC=32
```

Return Codes:

0	Normal
6	Subcommand rejected in the profile due to LOAD error
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. & cannot be used in an XEDIT macro.

= (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. placed in the console stack, without being changed, by using TRANSFER =
   c. specified by using SET = *line*, where line 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.
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 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 key. For example, the editor assigns the ? subcommand to the PF6 key (initial setting).
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

Prefix subcommands are "line" subcommands, which are entered by typing over the five-position prefix area. You can use the prefix subcommands 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

The prefix subcommands are:

A	Add (equivalent to I)
C	Copy
D	Delete
E	Extend
F	Following
I	Insert
M	Move
P	Preceding
"	Duplicate
/	Set current line
SCALE	Display scale
TABL	Display tab line
.xxxxx	Assign symbolic name

General Usage Notes:

1. Use the subcommands

   ```
   SET PREFIX ON RIGHT
   ```

   or

   ```
   SET PREFIX ON LEFT
   ```

   to display the five-position prefix area (=====).

2. Prefix subcommands 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)
   a=3==       (adds 1 line)
   ```

   are valid ways to enter prefix subcommands. You can type multiple prefix subcommands before pressing the ENTER key.

3. If line numbers are displayed in the prefix area (via the SET NUMBER ON subcommand), use prefix subcommands carefully. Only the characters that you type over *and* that are different from the numbers in the prefix area are interpreted as the prefix subcommand.

For example:

```
The prefix area contains          012345
You type over "a4":               01a445
The prefix subcommand is "a4".

If you typed "a44":               01a445
or if you typed "a445":           01a445
```

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.

However, if you leave the cursor in the prefix area, the editor interprets the changed part of the prefix area *up to* the cursor.

For example:

```
The prefix area contains:         012345
You type over "a3" (note
the cursor):                      01a345
                                     _
```

Because the cursor is left in the prefix area, the prefix subcommand is "a3".

4. The RESET subcommand (entered on the command line) can be used to cancel any pending prefix subcommands, that is, prefix subcommands that have caused a "COPY/MOVE PENDING" or "BLOCK INCOMPLETE" message to be displayed in the status area. All prefix subcommands that have been typed but not yet executed will be removed.
5. When you are editing a file on multiple screens (multiple views of the same file) prefix subcommands may be specified on all of the views.
6. Prefix subcommands are executed only when the sequence entered is syntactically correct and coherent. Otherwise, *none* of them are executed and they are displayed (highlighted) on the screen with an error message or a status condition in the status area:

   Error Messages:

   ```
   INVALID PREFIX SUBCOMMAND
   PREFIX SUBCOMMAND CONFLICT
   ```

   Status:

   ```
   BLOCK INCOMPLETE
   COPY/MOVE PENDING
   ```

7. Prefix subcommands are executed before any commands executed by pressing a PF key or before any commands that may be typed in the command line.
8. If you type a prefix subcommand 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. If the prefix subcommand also caused a "pending" status, the adjusted number appears in the prefix area, replacing the number you typed.

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:
The prefix area on each line that is added is highlighted.

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

The cursor is placed in the first tab column of the first line that was added.

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.
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).

The message

```
COPY/MOVE 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:

```
BLOCK INCOMPLETE
```

This "incomplete" status allows you to scroll through the file before completing the block.

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.

Responses:

When a DD has been entered on only one line of a block of lines to be deleted, the following message is displayed in the status area:

```
BLOCK INCOMPLETE
```

This "incomplete" status allows you to scroll through the file before completing the block.

The cursor is placed on the line following the last line deleted.

Examples:

Figure 4-1 is a before-and-after example of the A and D prefix subcommands.

```
 ANIMALS  FACTS    A1  F 80  TRUNC=80 SIZE=14 LINE=9 COLUMN=1

===== * * * 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 COLUMN=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
===== PROPERTIES 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.

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 message

```
COPY/MOVE 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.

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:

The prefix area of each line that is inserted is highlighted. Each line that is inserted is pre-filled with the current mask (see the SET MASK subcommand). The cursor is placed on the first line that was inserted.

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.
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 screens.

Responses:

The message

```
COPY/MOVE 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 message is displayed in the status area:

```
BLOCK INCOMPLETE
```

This "incomplete" 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.

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 COLUMN=1

===== 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 THE 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 COLUMN=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 message

```
COPY/MOVE 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.

SCALE (Display Scale)

Use the SCALE prefix subcommand to display the scale on this 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
```

TABL (Display Tab Line)

Use the TABL prefix subcommand to display a "T" in every tab column, according to the current tab settings, 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
```

/ (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 Notes:

1. If several / prefix subcommands are typed on the screen, the last one will set the current line.
2. The / prefix subcommand is the only one that is executed even when the status area indicates "BLOCK INCOMPLETE" or "COPY/MOVE PENDING". This allows you to scroll through the file while defining blocks of lines to be deleted, moved, copied, or duplicated.

" (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 message is displayed in the status area:

```
BLOCK INCOMPLETE
```

This "incomplete" status allows you to scroll through the file before completing the block.

.xxxx (Set Symbolic Name)

Use the .xxxx prefix subcommand to assign a symbolic name to this line. You can use this name to refer to the line in subsequent target operands of XEDIT subcommands.

The format of the .xxxx prefix subcommand is:

```
. xxxx
```

where:

.xxxxx
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).
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 currently defined. The subcommand QUERY POINT can be used to display the name of the current line.

Appendix A: Filetype Defaults

Filetype	SERIAL	TRUNC	LRECL	VERIFY	RECFM	FILLER	ESCAPE	CASE
ASM3705	ON	71	80	71	F	blank	/	U
ASSEMBLE	ON	71	80	72	F	blank	/	U
AMSERV	ON	72	80	72	F	blank	/	U
BASDATA	OFF	80	80	80	F	blank	/	U
BASIC	OFF	80	80	80	F	blank	/	U
CNTRL	OFF	80	80	80	F	blank	/	U
COBOL	ON	72	80	72	F	blank	/	U
COPY	ON	71	80	71	F	blank	/	U
DIRECT	ON	72	80	72	F	blank	/	U
EXEC	OFF	130	130	130	V	blank	/	U
FORTRAN	ON	72	80	72	F	blank	/	U
FREEFORT	OFF	81	81	81	V	blank	/	U
JOB	OFF	80	80	80	F	blank	+	U
LISTING	OFF	121	121	121	V	blank	/	U
MACLIB	ON	71	80	72	F	blank	/	U
MACRO	ON	71	80	72	F	blank	/	U
MEMO	OFF	80	80	80	V	blank	/	M
NAMES	OFF	255	255	255	V	blank	/	M
NOTEBOOK	OFF	132	132	132	V	blank	/	M
NETLOG	OFF	255	255	255	V	blank	/	M
PLI	ON	72	80	72	F	blank	/	U
PLIOPT	ON	72	80	72	F	blank	/	U
SCRIPT	OFF	132	132	132	V	blank	/	M
UPDATE	ON	71	80	72	F	blank	/	U
UPDTXXXX	ON	71	80	72	F	blank	/	U
VSBASIC	OFF	80	80	80	F	blank	/	U
VSBDATA	OFF	132	132	132	V	blank	/	U
XEDIT	OFF	255	255	255	V	blank	/	U
All others	OFF	80	80	screen width*	F	blank	/	U

* If LRECL is less than the screen width, VERIFY = LRECL. Otherwise, VERIFY = screen width.

Figure A-1. Default Settings According to Filetype (Part 1 of 2)

Filetype	Tab Settings
ASM3705	1 10 16 30 35 40 45 50 55 60 65 70
AMSERV	2 5 10 15 20 25 30 35 40 45 50 55 60
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
EXEC	1 5 8 17 27 31
FORTRAN	1 7 10 15 20 25 30 80
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
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
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
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
UPDATE	1 10 16 30 35 40 45 50 55 60 65 70
UPDTXXXX	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 10 16 30 35 40 45 50 55 60 65 70
All others	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

Figure A-1. Default Settings According to Filetype (Part 2 of 2)

Appendix B: CMS Editor (EDIT) Compatibility Mode

To edit a file in EDIT compatibility 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 compatibility 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 compatibility 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 compatibility mode) for a particular file, you can specify "OLD" as an option on the EDIT command. For example:

```
EDIT fn ft (OLD
```

If you want to invoke the old CMS editor each time you issue an EDIT command, see Usage Note 8, below.

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 compatibility mode the same way they are executed under the CMS editor:

ALTER	FNAME	PRESERVE	SHORT
AUTOSAVE	FORMAT	PROMPT	STACK
BACKWARD	FORWARD	QUIT	TABSET
BOTTOM	GETFILE	RECFM	TOP
CASE	IMAGE	RENUM	TRUNC
CHANGE	INPUT	REPEAT	TYPE
CMS	LINEMODE	REPLACE	UP
DELETE	LOCATE	RESTORE	X,Y
DOWN	LONG	RETURN	ZONE
DSTRING	NEXT	REUSE	?
FIND	OVERLAY	SAVE	$XXXX (macros)
FMODE		SERIAL	

2. The following EDIT subcommands are executed slightly differently in EDIT compatibility mode:

   SCROLL/SCROLLUP
   Under the CMS editor, these subcommands scroll the file one full screen. In EDIT compatibility 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 compatibility 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 compatibility mode.

4. In EDIT compatibility 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. When you issue an EDIT command, the XEDIT profile macro (if any) is executed automatically.
7. 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); and the column number of the current column (COLUMN=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.
8. When you issue an EDIT command, an EXEC named EDIT EXEC S2 is executed. To cause the EDIT command to invoke the old CMS editor, you must rename this EXEC.

Notes for Macro Writers:

When an EDIT command is issued from an EXEC file, the CMS editor is invoked. To invoke EDIT compatibility mode, you must issue the following statement in your EXEC file:

```
EXEC EDIT ...
```

Appendix C: Migrating from EDIT to XEDIT

Figure C-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

Figure C-1. EDIT Migration Chart (Part 1 of 2)

If you used this EDIT command:	Now use this XEDIT command:
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
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 C-1. EDIT Migration Chart (Part 2 of 2)

Appendix D: Display Editing System (EDGAR) Compatibility Mode

To edit a file in EDGAR compatibility mode, you must be using a display terminal in full screen mode. You must convert your EDGAR $PROFILE file (one time only). Then, when you issue the EDGAR command, the XEDIT editor automatically places you in EDGAR compatibility mode, in which you can issue both EDGAR and XEDIT commands.

If you want to invoke the original EDGAR (instead of XEDIT in EDGAR compatibility mode) for a particular file, you can specify "OLD" as an option on the EDGAR command. For example:

```
EDGAR fn ft fm OLD
```

If you want to invoke the original Display Editing System IUP each time you issue an EDGAR command, see Usage Note 6, below.

Converting Your EDGAR $PROFILE File

A default profile is provided. Its filename and filetype are $EDGAR XEDIT. If you have your own EDGAR profile, you must convert your EDGAR $PROFILE file to an XEDIT macro. This conversion needs to be done only once.

The following EXEC converts a file named "filename $PROFILE" to an XEDIT macro named "$filename XEDIT A2".

CNV$PROF [EDGAR / *filename*]

where "filename" is the name of your $PROFILE file. If you omit "filename", the default is "EDGAR" (which is usually the name of the $PROFILE file).

Once the $PROFILE file is converted, you can edit a file in EDGAR compatibility mode by issuing the same EDGAR command that you normally use.

Usage Notes:

1. The screen differs from the EDGAR screen in the following ways:
   a. The Type III area contains five equals signs (=====) instead of the EDGAR pattern (*===*). The Type III area of the current line also contains five equals signs; however, the current line is highlighted.
   b. The header line is protected; therefore, you cannot modify the fileid by typing over the header. Instead, you can use the XEDIT subcommands SET FNAME, SET FTYPE, and SET FMODE. The header line does not contain the alteration count (ALT) or the AUTOSAVE filename. (You can use the XEDIT subcommand QUERY AUTOSAVE to display this information.)
   c. A file line that is longer than a screen line is displayed on as many lines as necessary.
2. You may issue both EDGAR and XEDIT commands in EDGAR compatibility mode. If an EDGAR and XEDIT command name are the same, the EDGAR command is executed. To execute the XEDIT command instead, type a single quote (') before the command name; for example, ' QUERY AUTOSAVE causes the XEDIT command to be executed.

3. The following EDGAR commands are executed in EDGAR compatibility mode the same way they are executed under EDGAR:

```
CANCEL      QUIT
ENTER       SAVE
FILE

ADD         LOCATE
BACKWARD    LOCATE (negative)    TABS
BOTTOM      MOVE                 TOP
CASE        PFn                  UFIND
CLINE       PUTFILE              ULOCATE
CMS         QUERY                UP
COPY        RECFM                USEARCH
CP          SEARCH               VIEW
DELETE      /                    ZONE
DOWN        SERIAL               .XXXX
DSPC        SET NULLS            :XXXX
DSPF        SET AUTOSAVE         $XXXX
DUP         SET NUMBERS          nnnn
FIND        SET CONVERT          &, =, ?
FORWARD     SHIFT
GETFILE     STACK
```

Type III Commands: A, D, /, "

The following EDGAR $PROFILE functions are supported: FILE, *, PFxx

In addition, the following functions are supported:

ECOMMAND
EDGAR SVC

4. The following subcommands are executed differently in EDGAR compatibility mode:

   a. SCREEN

      A logical screen must contain at least five lines.

   b. FORMAT

      When the FORMAT command is used to create multiple views of the same file, each view has its own file identification line (as well as its own command line).

      The FORMAT subcommand cannot be used to assign more than one physical screen line for each logical file line. A logical line is displayed on as many physical lines as are required.

   c. REPEAT

      You cannot use this subcommand in compatibility mode. However, you can perform the same function by issuing a command to change the line and then issuing the XEDIT subcommand REPEAT. The REPEAT subcommand advances the line pointer (in a forward or backward direction) and executes the last subcommand that was entered, for a specified number of times. For example:

```
OVERLAY text
REPEAT 5
```

      The OVERLAY subcommand is executed, and then it is repeated on the next five lines.

d. SET DBLANK

When SET DBLANK ON is in effect, blank lines are removed from a file when a FILE or SAVE subcommand is issued. They are removed from the copy of the file in virtual storage, and they are not written on the copy of the file on disk.

e. Naming lines (POINT, .XXXX, :XXXX)

(1) You cannot assign multiple names to a line. When a name is assigned to a line, it replaces the previous one, if any.

(2) To name a line from the Type III area, do not use the "<" symbol at the end of the name; simply enter the name, preceded by a period (.XXXX).

(3) You cannot issue the :XXXX< command from the Type III area. Although you can assign both temporary names (.XXXX) and permanent names (:XXXX) to lines, you can assign permanent names only by using the POINT command.

f. CHANGE (VER option)

When the VER option is specified, the CHANGE command is executed. All changed lines are displayed on as many screens as are required.

g. INPUT, INSERT, REPLACE

Blank lines entered between lines containing data are kept in the file.

5. The following EDGAR $PROFILE functions are handled differently in EDGAR compatibility mode:

a. TABCHR - The tab character is defined by a CMS SET INPUT command (CMS SET INPUT char 05). The way tab characters are handled depends on the setting of the XEDIT subcommand SET IMAGE: if SET IMAGE ON is in effect (the default for most filetypes except SCRIPT), a tab character is expanded with blank or filler characters; if SET IMAGE OFF or SET IMAGE CANON is in effect, tab characters are left as they are entered.

b. TABDEF - The limit is one "fill" character.

c. CMDSYN - Primitive EDGAR functions (for example, DOWN) cannot be redefined.

6. When you issue an EDGAR command, an EXEC named EDGAR EXEC S2 is executed. To cause the EDGAR command to invoke the original Display Editing System IUP (the "real" EDGAR) instead, you must rename this EXEC.

7. If you want to invoke EDGAR from *within* XEDIT, you must use the CMS subcommand. This command would have the form "CMS EDGAR fn ft".

Notes for Macro Writers:

1. If you issue /SOS TABF or /SOS TABB, the cursor is tabbed in both the file lines and in the command line.

2. Because of slight differences in the appearance of the screen, you should not rely on details of the layout in terms of column numbers. In addition, the fileid in the header line cannot be overwritten; you can use the XEDIT subcommands SET FNAME, SET FTYPE, and SET FMODE instead.

3. The SET NOREAD command is not supported. Instead of redefining the meaning of SOS ATTN, you can perform the two functions directly: either stack a null line or issue an SOS ENTER.

4. You can edit 26 files simultaneously, that is, when editing multiple files, the number of files in the ring of files in storage is limited to 26.

5. Remember that XEDIT prefix subcommands C, M, F, and P can cause a "pending" status.
6. The XEDIT profile macro, if any, is not executed when you issue the EDGAR command.

Error Messages:

```
002E FILE {'$EDGAR XEDIT *'|'EDGAR MODULE *'} NOT FOUND., RC=28
```

Return Codes:

28 The EDGAR profile or EDGAR module was not found but is required.

Appendix E: Migrating from EDGAR to XEDIT

Figure E-1 lists the EDGAR 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 EDGAR command:	Now use this XEDIT command:
CANCEL	CANCEL
CLINE	SET CURLINE
ENTER	XEDIT
FILE	FILE
FORMAT	SET SCREEN (cannot assign multiple physical lines to display one logical line)
QUIT	QUIT
SCREEN	SET SCREEN
SAVE	SAVE
ADD	ADD
BACK	BACKWARD
BOTTOM	BOTTOM
CASE	SET CASE
CHANGE	CHANGE
CMS	CMS
COPY	COPY
CP	CP
DELETE	DELETE
DOWN	UP
DSPC	QUERY CURSOR
DSPF	QUERY PFn
DUP	DUPLICAT
FIND	FIND (searches in first tab column instead of first zone column)
FORWARD	FORWARD
GETFILE	GET
INPUT	INPUT (INPUT STRING can be done via SET MASK)
INSERT	Not supported
LEFT	RIGHT
LOCATE	LOCATE
MOVE	MOVE

Figure E-1. EDGAR Migration Chart (Part 1 of 2)

If you used this EDGAR command:	Now use this XEDIT command:
PFn	SET PFn
POINT	SET POINT
PUTFILE	PUT
QUERY	QUERY
RECFM	SET RECFM
REPEAT	Can be done via OVERLAY (followed by REPEAT)
REPLACE	Can be done via DELETE and INPUT
RIGHT	LEFT
SEARCH	LOCATE with SET WRAP ON
SERIAL	SET SERIAL
SET	SET (DBLANK, NOREAD not supported)
SHIFT	SHIFT
STACK	STACK
TABS	SET TABS
TOP	TOP
ULOCATE /string	LOCATE -/string/
UP	DOWN
USEARCH	LOCATE -/string/ with SET WRAP ON
VIEW	SET VERIFY
ZONE	SET ZONE
.XXXX	.XXXX (target facility)
$XXXX	$XXXX (execute $XXXX EXEC instead of XXXX EXEC)
&	&
?	?
=	=
Type III:	
A	A
D	D
/	/
"	"
.XXX	.XXX

Figure E-1. EDGAR Migration Chart (Part 2 of 2)

Appendix F: 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
EDGAR
JOIN
SCHANGE
SPLIT
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 G: A Summary of XEDIT Subcommands and Macros

Subcommand	Purpose
Add	Add n lines after current line.
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.
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.
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.

Subcommand	Purpose
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.
MACRO	Execute macro without checking for subcommand or synonym.
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 when screen is in "pending" or "incomplete" status.
RESTore	Restore settings of XEDIT variables to values they had when PRESERVE was issued.
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 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.

Subcommand	Purpose
SET CMDline	Move the position of the command line.
SET COLPtr	Specify if column pointer is displayed (typewriter terminals only).
SET CTLchar	Define control character(s) to specify that fields be displayed highlighted or not, protected or not, visible or not.
SET CURLine	Define the position of the current line on the screen.
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 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 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 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 PACK	Specify if the file is to be written to disk in packed format.
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.
SET RANge	Define a new "top" and "bottom" for the file.
SET RECFm	Define the record format.
SET RESERved	Reserve a line, which cannot be used by the editor.
SET SCALe	Control the display of the scale line.
SET SCReen	Divide the screen into logical screens, for multiple views of the same or of different files.
SET SERial	Control file serialization.
SET SPAN	Allows a string target to span a number of lines.
SET STAY	Specify whether the line pointer moves when a string is not located.
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.

Subcommand	Purpose
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 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 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.
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 line pointer 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:	
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.
"	Duplicate line(s).
/	Make this line the current line.
SCALE	Display the scale on this line.
TABL	Display the tab line on this line.
.xxxx	Assign symbolic name to this line.

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This Technical Newsletter applies to Release 2 of the Virtual Machine/System Product, Program Number 5664-167. It provides replacement pages for your publication. These replacement pages remain in effect until specifically altered. Pages to be replaced are:

title page, notices	3-118.1, 3-118.2 (added)
iii, iv	3-147, 3-148
vii, viii	3-183, 3-184
3-21, 3-22	3-184.1, 3-184.2 (added)
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A change to the text or to an illustration is indicated by a vertical line to the left of the change.

Summary of Amendments

This Technical Newsletter incorporates information on the SET CTLCHAR subcommand and the TAG/NOTAG operand of the READ subcommand. It also includes additional filetypes for which the editor has default settings.

For a detailed list of changes, see page iii.

Note: *Please insert this page in your publication to provide a record of changes.*

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