

PURPOSE

The Symbolic Tape Editor is used to prepare, edit, and generate symbolic program tapes on line. (See DEC-08-ESAB-D for details.)

STORAGE
REQUIREMENTS

Editor requires locations 0-1577 (1600₈ locations). Starting Address=0200.

LOADING

BIN is used to load Editor into core memory. The loading of the user's symbolic tapes is performed by Editor itself under keyboard control.

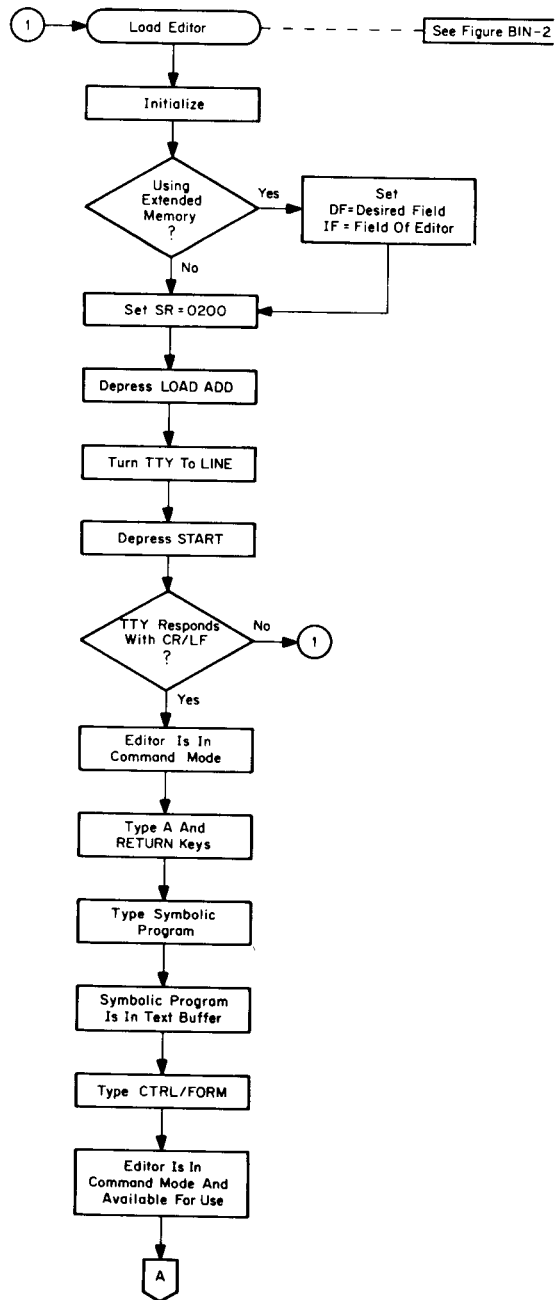


Figure EDIT-1 Generating a Symbolic Program On-Line Using Editor

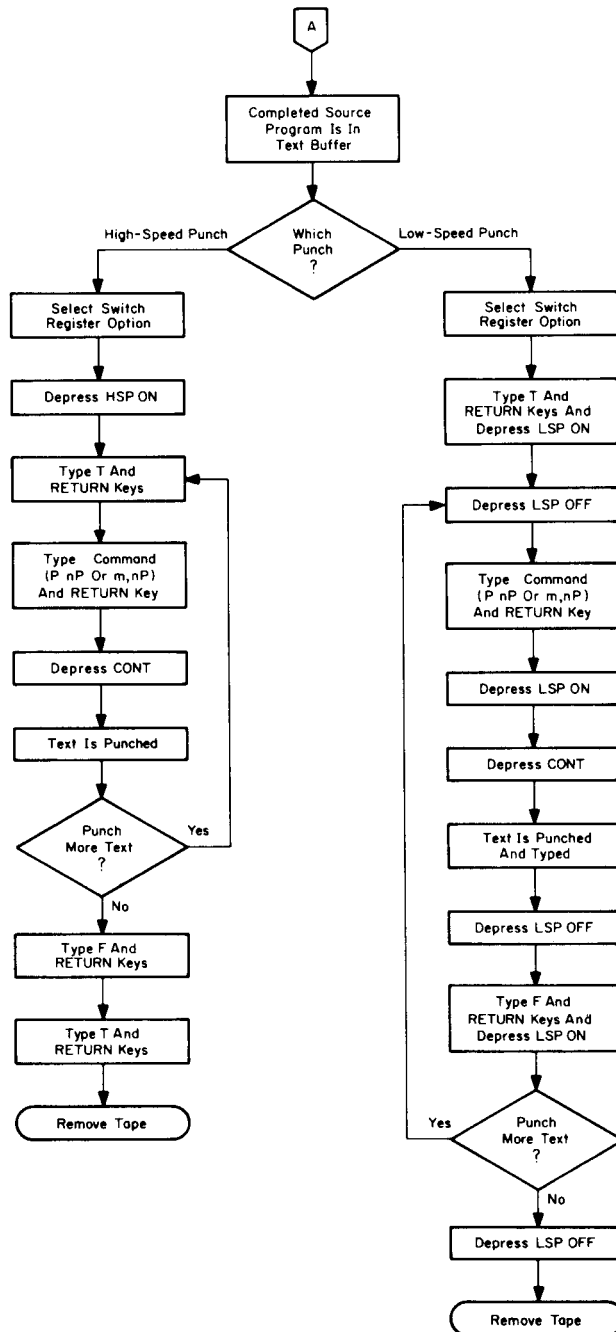


Figure EDIT-2 Generating a Symbolic Tape Using Editor

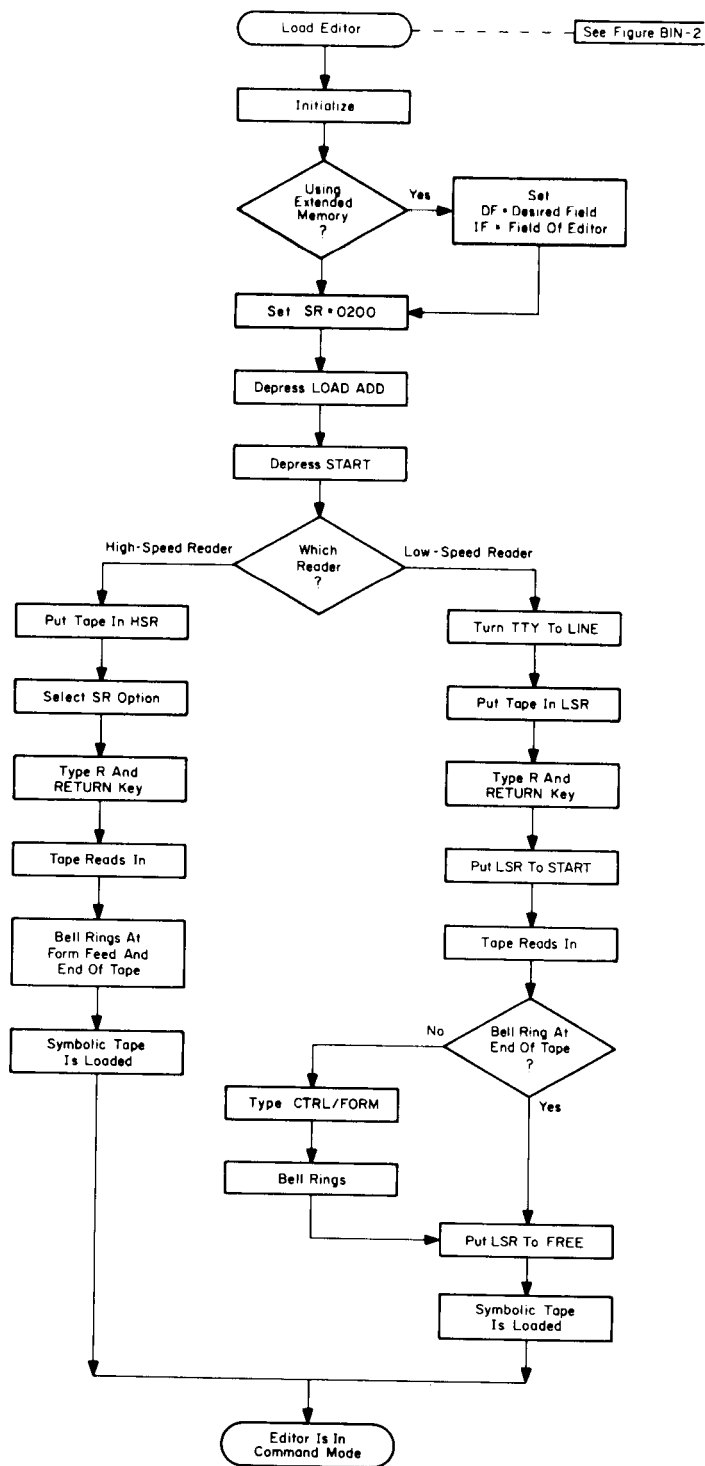


Figure EDIT-3 Loading a Symbolic Tape Using Editor

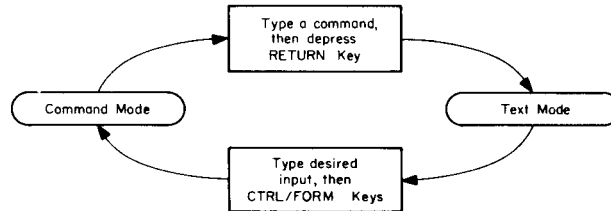
OPERATING MODES

Editor is always in one of the following modes.

Command Mode: All characters typed on the teleprinter are interpreted as commands to the Editor.

Text Mode: All characters typed or tapes being read in are interpreted as text to be put into the text buffer in the manner specified by the previous command and the SR options.

Transition between modes:



RESTART PROCEDURES

If the user stops the computer for any reason, he may restart it at location 0177 without disturbing the text in the buffer. A CR/LF will follow.

If no CR/LF is desired, restart at location 0200.

CAUTION

If Editor is restarted at location 0176, all text currently in the buffer is wiped out, and the text buffer is re-initialized for a new program.

SPECIAL KEY FUNCTIONS

<u>Key</u>	<u>Command Mode</u>	<u>Text Mode</u>
RETURN	Execute preceding command	Enter line in text buffer
←	Cancel preceding command (Editor responds with ? CR/LF)	Cancel line to the left margin
RUBOUT	Same as ←	Delete to the left one character for each depression; a \ (back-slash) is echoed (not used in READ command)
CTRL/FORM		Return to command mode (bell rings)

<u>Key</u>	<u>Command Mode</u>	<u>Text Mode</u>
	Used as argument alone or with + or - and a number (. =, .+5L, .-2S) (a space is equivalent to a +)	Legal text character.
/	Value equal to number of last line in buffer; used as argument (/ -5G, /L)	Legal text character
LINE FEED	List next line	Used in SEARCH command to insert CR/LF into line
ALT MODE (ESC)	List next line	
>	List next line	
<	List previous line	
=	Used with . and / to obtain their value (.=27)	
:	Same as = (gives value of any legitimate argument)	
CTRL/TAB		Produces a tab which on output is interpreted as ten spaces or a tab/rubout, depending on SR option.

SEARCH FEATURE IN COMMAND MODE

Following a nS command, Editor waits for the user to specify the search character which when typed is not echoed. When Editor locates and types the search character, typing stops and all or any combination of the following operations may be carried out.

- a. Type new text and terminate line with the RETURN key
- b. ← delete entire line to the left
- c. RETURN delete entire line to the right
- d. RUBOUT delete from right to left one character for RUBOUT typed (a \ is echoed for each RUBOUT typed)
- e. LINE FEED insert a CR/LF, thus dividing line into two
- f. CTRL/FORM search for next occurrence of search character
- g. CTRL/BELL change search character to next character typed by the user

SWITCH REGISTER OPTIONS

Switch Register options are used with input and output commands to control the reading and punching of paper tape.

<u>SR Bit</u>	<u>Position</u>	<u>Function</u>
0	0	Input text as is
	1	Convert all occurrences of 2 or more spaces to a tab
1	0	Output each tab as 10 spaces
	1	Tab is punched as tab/rubout
2	0	Output as specified
	1	Suppress output*
10	0	Low-speed punch
	1	High-speed punch
11	0	Low-speed reader
	1	High-speed reader

COMMANDS

Input

R Read incoming text from tape reader into core
A Append incoming text from keyboard into core → *slow odder to not -*

Editing

L List entire text buffer
nL List line n
m,nL List lines m through n inclusively
nC Change line n
m,nC Change lines m through n inclusively
I Insert before first line
nI Insert before line n
K Delete entire text buffer
nD Delete line n
m,nD Delete lines m through n inclusively
m,n\$ kM Move lines m through n to before line k
G Print next tagged line (if none, Editor types ?)
nG Print next tagged line after line n (if none, ?)
S Search buffer for character specified after RETURN key and allow modification (search character is not echoed on printer)
nS Search line n, as above
m,nS Search lines m through n inclusively, as above

Output

P Punch entire text buffer
nP Punch line n
m,nP Punch lines m through n inclusively

*Bit 2 allows the user to interrupt any output command and return immediately to command mode.

F	Punch leader tape, a Form Feed, and trailer tape
T	Punch about 6 inches of leader/trailer tape
nN	Do P, F, K, and R commands n times

where m and n are decimal integers, and m is smaller than n. P and N halt to allow user to select SR option. Press CONT to execute command.

Commands are executed upon depressing the RETURN key.

BUFFER OVERFLOW

Editor has storage for about 5000_{10} characters (approximately 60 heavily commented lines or 340 uncommented lines). When the text buffer is exceeded, operation continues, but a bell rings for every location used beyond the buffer limit. The user may expand the text buffer by changing location 0001 to contain the address of the last location (should not be greater than location 7570) used prior to buffer overflow. Very large programs should be divided into sections.

DIAGNOSTICS

- a. Editor checks commands for nonexistent information and incorrect formatting, and when an error is detected Editor types a ? and ignores the command. However, if an argument is provided for a command that doesn't require one, the argument is ignored and the command is executed properly.
- b. Corrections and additions to the user's program may be either typed in from the teleprinter keyboard or read in from the paper tape reader.
- c. Since Editor does not recognize extraneous and illegal control characters, a tape containing these characters can be corrected by merely reading the tape into Editor and punching out a new tape.