<table>
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<th>DECUS NO.</th>
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<tr>
<td>TITLE</td>
<td>Tiny Tape Editor</td>
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<td>Digital Equipment Corporation</td>
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<td>DATE</td>
<td>October 1966</td>
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ANNOUNCING A NEW EDITOR

This is a tiny tape character editor that fits in core at the same time as the PAL III or MACRO-8 assemblers. A tape may be duplicated at three speeds and stopped at any character for insertion or deletion. The toggle switches control the speed and the functions desired.

all down: high speed copy tape

bits up

0 - half speed (about two chars/sec.)
1 - medium speed
2 - low speed
3 - stop as long as this bit is up
6 - skip characters read in
9 - stop on carriage return; print "/" instead, and wait until the keyboard buffer is changed by a KEY strike. This may be used for adding comments to a line. It may also be used to indicate the end of an entire line that was skipped.

The procedure is as follows:

Turn on the punch and type leader trailer on "local" control.
Load tape and set tape control to "start".
Load the starting address in toggles; hit load address;
Set toggles to functions and speeds desired, and press start switch

The tape will be copied and printed; as you approach the characters to be edited, slow down the speed; when you are within a few characters you may step character by character by flicking SW3 down and up for each character to be copied (or skipped if bit 6 is up). If a character or words are to be inserted at this point, set the reader switch to stop, put all sense switches down and type.

If bit 9 was on and a "/" has been typed, set the reader control to stop, put all SW's down, and type your comment and a carriage return. Then reset the SW's as desired, and set the reader control to start to continue.

This program occupies 72 (10) registers.
2. ABSTRACT

Without destroying PAL III, MACRO-8 or DDT-8 symbolic tapes may be edited on line.

3. REQUIREMENTS

3.1 5200-5322

3.2 ASR-33

4. USAGE

4.1 Loading

The program is loaded with the binary loader. For the 8/S one location is changed. This change is on the binary tape and may be added by hitting "continue" after the major portion has been loaded and the checksum read.

4.2 Equipment

Basic 8 and teletype

4.3 Switch Settings

4.3.1 All down: high speed copy tape

4.3.2 Bits up

0 - half speed (about two chars/sec.)
1 - medium speed
2 - low speed
3 - stop as long as this bit is up
6 - skip characters read in
9 - stop on carriage return; print "/" instead, and wait until the keyboard buffer is changed by a KEY strike. This may be used for adding comments to a line. It may also be used to indicate the end of an entire line that was skipped.

4.4 Operation
After loading the program using the binary loader, the procedure is as follows:

Turn on the punch and type leader trailer on "local" control; load tape and set tape control to "start"; load the starting address in toggles; hit load address; set toggles to functions and speeds desired and press start switch. The tape will be copied and printed; as you approach the characters to be edited, slow down the speed; when you are within a few characters you may step character by character by flicking SW3 down and up for each character to be copied (or skipped if bit 6 is up). If a character or words are to be inserted at this point, set the reader switch to stop, put all sense switches down and type. If bit 9 was on and a "/" has been typed, set the reader control to stop, put all SW's down, and type your comment and a carriage return. Then reset the SW's as desired, and set the reader control to start to continue. This program occupies 82 (10) registers.

5. RESTRICTIONS
Low speed equipment only

6. DESCRIPTION
When a character is read from the reader or from the keyboard, the program looks at the switch settings to determine the desired reaction. The character may be skipped or printed and a time lag may be executed before the next character will be accepted. If the program is in the waiting loop and multiple characters are struck on the keyboard, these characters will be lost.
If switch 9 is up, the program goes into a slightly different mode of operation. In this state the keyboard buffer is first read to see if the next character is a carriage return. If not, then it proceeds as usual. If it is, then a "/" is printed instead, and the program loops until the keyboard buffer is changed by a key strike. After the "/" has been typed, the user may depress all sense switches, turn off the teletype tape reader, and type a comment after the "/", followed by a C.R.

7. METHODS
   Not applicable

8. FORMAT
   Not applicable

9. EXECUTION TIME
   10 cps to .5 cps

10. PROGRAM
*5200

/ TAPE CHARACTER EDITOR AND COMMENTATOR.
/ THIS PROGRAM FITS BELOW MACRO-8
/ AND ABOVE DDT-E.

5200 60  TLS
5201 4273  TOP,  JMS RED  CLEAR THE FLAG TO GET NEXT.
5202 3311  DCA TEM  SAVE THE CHARACTER.
5203 7604  LAS  CHECK THE CONTROLS FOR PRINT-B
5204 9316  AND SKIP  MASK OUT SKIP SWITCH.
5205 7640  SZA CLA  TEST THE SWITCH.
5206 5211  JMP +3  SKIP PRINTING.
5207 1311  TAD TEM  PRINT
5208 4965  JMS PNT  PRINT A CHARACTER.
5211 7604  LAS  CHECK FOR SPEED COMMAND.
5212 4329  AND SPEED  
5213 7650  SNA CLA  
5214 5227  JMP WAITER  
5215 4330  JMS CYCLE  
5216 7694  LAS  
5217 8321  AND MED  
5219 7650  SNA CLA  
5221 5227  JMP WAITER  
5222 4330  JMS CYCLE  
5223 7694  LAS  
5224 9322  AND LOW  
5225 7640  SZA CLA  
5226 4330  JMS CYCLE  
5227 7634  WAITER,  LAS  
5230 9315  AND WAIT  
5231 7640  SZA CLA  
5232 5227  JMP +3  
5233 6932  KCC  
5234 7604  LAS  
5235 9317  AND STOP  
5236 7650  SNA CLA  
5237 5201  JMP TOP  
5240 4273  JMS RED  
5241 1313  TAD MCR  
5242 7640  SZA CLA  
5243 5201  JMP TOP  
5244 1314  TAD SLASH  
5245 4265  JMS PNT  PRINT COMMENT FIELD INSTEAD.
5246 4273  JMS RED  
5247 1313  TAD MCR  
5250 7650  SNA CLA  
5251 5246  JMP +3  
5252 6932  KCC  
5253 4273  COMENT,  JMS RED  
5254 3311  DCA TEM  
5255 1311  TAD TEM  
5256 4265  JMS PNT  
5257 6932  KCC  
5262 1311  TAD TEM  
5263 7650  SNA CLA  
5263 5201  JMP TOP  
5264 5253  JMP COMENT  

/////////
/PRINT A LETTER.
/WAIT FOR THE LAST ONE TO
/TO FINISH THEN TYPE.
/CLEAR AC.
/RETURN.

/READ A LETTER.
/RETURN.

/ENTRY POINT.
/SETUP # OF TIMES TO DO
/20000(8) X35MMS.
/COUNT 2EXP(12).
/WAIT
/COUNT CYCLES.
/(NOP)-FOR 8/S.
/EXIT.

/ADDITIONAL BINARY PATCH FOR PDP-8/S.
/*CNTR-2

5386 7:36a
NOP