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DECUS NO.

8-52

TITLE

Tiny Tape Editor

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COMPANY

Digital Equipment Corporation

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SOURCE LANGUAGE

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 flickin 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 32 (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-8.

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5200 60
      46
5201 4273 TOP,   TLS
      3311      JMS RED      /CLEAR THE FLAG TO GET NEXT.
5202 7604      DCA TEM      /SAVE THE CHARACTER.
5203 7604      LAS          /CHECK THE CONTROLS FOR PRINT-B
5204 0316      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 4265      JMS PNT      / PRINT A CHARACTER.
5209 7604      LAS          /CHECK FOR SPEED COMMAND.
5210 0320      AND SPEED
5211 7650      SNA CLA
5212 5227      JMP WAITER   /GO CHECK THE STOP COMMAND.
5213 4300      JMS CYCLE    /WAIT.
5214 7604      LAS          /READ THE SW'S.
5215 0321      AND MED      /MASK BIT ONE.
5216 7650      SNA CLA      /MEDIUM SPEED?
5217 5227      JMP WAITER   /WAITING DONE.
5218 4300      JMS CYCLE    /YES
5219 7604      LAS
5220 0322      AND LOW
5221 7640      SZA CLA      /LOW SPEED?
5222 4300      JMS CYCLE
5223 7634 WAITER, LAS      /NO.
5224 0315      AND WAIT     /CHECK STOP COMMAND.
5225 7640      SZA CLA      /IS SW-3 DOWN?
5226 5227      JMP .-3      /NO, WAIT.
5227 6032      KCC          /FETCH NEXT CHARACTER.
5228 7604      LAS
5229 0317      AND STOP     /CHECK FOR CR?
5230 7650      SNA CLA
5231 5201      JMP TOP      /NO
5232 4273      JMS RED      /READ NEXT NOW.
5233 1313      TAD MCR
5234 7640      SZA CLA      /CR FOUND?
5235 5201      JMP TOP      /NOT FOUND
5236 1314      TAD SLASH    /PRINT COMMENT FIELD INSTEAD.
5237 4265      JMS PNT
5238 4273      JMS RED      /WAIT FOR A NON-CR TO COME INTO
5239 1313      TAD MCR      /THE KEYBOARD BUFFER.
5240 7650      SNA CLA
5241 5246      JMP .-3      /CONTINUE WAITING.
5242 6032      KCC          /FETCH NEXT CHARACTER.
5243 4273 COMENT, JMS RED   /READ COMMENT FIELD.
5244 3311      DCA TEM      /SAVE ONE.
5245 1311      TAD TEM
5246 4265      JMS PNT      /PRINT AND PUNCH.
5247 6032      KCC          /FETCH NEXT.
5248 1311      TAD TEM      /TEST LAST.
5249 1313      TAD MCR      /TEST FOR CR.
5250 7650      SNA CLA
5251 5201      JMP TOP      /RESUME NEXT LINE.
5252 5253      JMS PNT      /CONTINUE COMMENT FIELD.
5253 1311      TAD MCR
5254 7650      SNA CLA
5255 5201      JMP TOP
5256 5253      JMS PNT
5257 1311      TAD MCR
5258 1313      TAD MCR
5259 7650      SNA CLA
5260 5201      JMP TOP
5261 5253      JMS PNT
5262 1311      TAD MCR
5263 7650      SNA CLA
5264 5201      JMP TOP
5265 5253      JMS PNT

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////////

5266	6041		TSP	/PRINT A LETTER.
5267	5266		JMP --1	/WAIT FOR THE LAST ONE TO
5270	6046		TLS	/TO FINISH; THEN TYPE.
5271	72			
	00		CLA	/CLEAR AC.
5272	5665		JMP I PNT	/RETURN.
		/////		
5273	0000	RED,	0	
5274	6031		KSF	/READ A LETTER.
5275	5274		JMP --1	
5276	6034		KRS	
5277	5673		JMP I RED	/RETURN.
		////////		
5300	0000	CYCLE,	0	/ENTRY POINT.
5301	1312		TAD MUMPH	/SETUP # OF TIMES TO DO
5302	3311		DCA TEM	/20000(8) X35MMS.
5303	2310		ISZ CNTR	/COUNT 2EXP(12).
5304	5303		JMP --1	/WAIT
5305	2311		ISZ TEM	/COUNT CYCLES.
5306	5303		JMP --3	/(NOP)-FOR 8/S.
5307	5700		JMP I CYCLE	/EXIT.
		////////		
5310	0000	CNTR,	0	
5311	0000	TEM,	0	
5312	7760	MUMPH,	-20	
5313	7563	MCR,	-215	
5314	0257	SLASH,	257	
5315	0400	WAIT,	400	
5316	0040	SKIP,	40	
5317	0004	STOP,	4	
5320	7000	SPEED,	7000	
5321	3000	MED,	3000	
5322	1000	LOW,	1000	
		/////		

CNTR	5310
COMENT	5253
CYCLE	5300
LOW	5322
MCR	5313
MED	5321
MUMPH	5312
PNT	5265
RED	5273
SKIP	5316
SLASH	5314
SPEED	5320
STOP	5317
TEM	5311
TOP	5201
WAIT	5315
WAITER	5227

/

/ADDITIONAL BINARY PATCH FOR PDP-8/S.

/

*CNTR-2

5306 7000

NOP