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DECUS NO.	5-10
TITLE	PAPER TAPE READER TESTER
AUTHOR	Tony Schaeffer
COMPANY	Lawrence Radiation Laboratory Berkeley, California
DATE	May 25, 1964
SOURCE LANGUAGE	BIN with Parity Format

Length: Registers in Locations (octal):
10, 11, 40 through 67 (save 63, 64),
and 6000-7777

ATTENTION

PAPER TAPE READER TESTER

A test tape can be produced and will be continuously read as an endless tape. Five kinds of errors will be detected and printed out. The read routine is in 6033-6040.

Use: Load 7000 and start: A test tape will be punched out and a corresponding table in memory will be made. Make a loop of this tape and put it into the tally reader.

The table in memory will be compared with the characters on tape. In this way it can be detected:

1. If it lost a bit in one out of eight channels.

2. If it found a bit where there was none.

3. If the reader failed to read a character.

4. If the reader read one character twice.

5. If a combination of errors was made.

When $SR_{11} = 1$ a print after each detected error occurs

1. Code:	Lost bit in channel	
A	1	W_{00}, see Format
B	2	W_{01}
C	3	W_{02}
D	4	W_{03}
E	5	W_{04}
F	6	W_{05}
G	7	W_{06}
H	8	W_{07}
2. Code:	Gained bit in channel	
I	1	W_{10}
J	2	W_{11}
K	3	W_{12}

Code: Gained bit in channell   (con't)

L	4	W_{13}
M	5	W_{14}
N	6	W_{15}
O	7	W_{16}
P	8	W_{17}

3. ⌐ failed to read W_{20}, see Format

4. ⌊ read twice W_{21}, see Format

5. ! combination error W_{22}, see Format

When $SR_{10} = 1$ a summary printout of errors is produced after 40 (octal) cycles of the endless tape. The number of cycles can be changed by loading minus the desired count in location 6030_8.

The same summary can be requested any time during the test by pulling all switches down (SR=0). This summary is for all tests in the current run. The program will stop after the summary, but can be continued by hitting continue.

The format of the summary is in words (W_n) of 4 octal digits each:

W_{00}	W_{01}	W_{02}	W_{03}	W_{04}	W_{05}	W_{06}	W_{07}
W_{10}	W_{11}	W_{12}	W_{13}	W_{14}	W_{15}	W_{16}	W_{17}
W_{20}	W_{21}	W_{22}				

To start program:

Load 6000

$SR_{11} = 1$ or $SR_{10} = 1$

Start
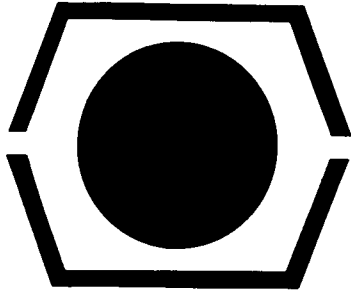
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DECUS NO.

8-197

TITLE

Overlay for Standard Editor and PAL III
Assembler

AUTHOR

John Knox

COMPANY

International Controls Corporation
Houston, Texas

DATE

Submitted: May 8, 1969

SOURCE LANGUAGE

PAL III

```
                              /THE FOLLOWING OVERLAY AND SUBROUTINES
                              /ALLOWS PAL III TO READ IN FROM THE EDITOR
                              /INSTEAD OF PAPER TAPE FOR EACH PASS.
                              /
                              /OPERATION IS AS FOLLOWS:
                              /DEPOSIT IN LOCATION Ø FIELD Ø THE EDITOR
                              /BIT Ø & 1 SWITCH OPTION DESIRED.
                              /LOAD ADDRESS 7777, PRESS START.
                              /AT THIS TIME THE EDITOR IS PLACED IN
                              /COMMAND MODE. THE BUFFER IS NOT CLEARED,
                              /USE K RETURN IF A CLEAR BUFFER IS DESIRED.
                              /ONLY THE HIGH SPEED P PUNCH COMMAND
                              /OPERATION IS CHANGED. AFTER NORMAL
                              /EDIT OPERATION AND PAL III IS DESIRED,
                              /SET SWITCH REGISTER BIT 10 TO 1,
                              /SET THE PAL III PASS SWITCH REGISTER
                              /OPTION AND TYPE P RETURN. AFTER HALT IF
                              /PUNCH DESIRED TURN ON AND PRESS CONTINUE.
                              /AFTER DESIRED PAL III PASS, CONTROL IS
                              /RETURNED TO THE EDITOR IN COMMAND MODE.
                              /IF NO EDITING IS REQUIRED SELECT NEXT
                              /PAL III PASS SWITCH OPTION AND REPEAT
                              /THE P RETURN COMMAND.
                              /UPON COMPLETION OF PASS 3 RETURN SWITCH
                              /REGISTER BIT 10 TO A Ø FOR LOW SPEED
                              /PUNCH OUTPUT.
                              /
                              /LOADING INSTRUCTIONS - DEPOSIT RIM LOADER
                              /INTO FIELD 1.   LOAD DEC-Ø8-LBAA-PM BINARY
                              /LOADER INTO FIELD 1.      LOAD DEC-Ø8-ASB1-PB
                              /2/24/67 PAL III BINARY TAPE INTO FIELD 1.
                              /LOAD DEC-Ø8-ESAB-PB 8/4/67 PDP-8 EDITOR,
                              /HIGH AND LOW SPEED COMBINED INTO FIELD Ø.
                              /LOAD THE FOLLOWING OVERLAY OF BOTH FIELDS.
                              /
                              /        EDITOR MODIFICATIONS

                              FIELD Ø

                                  *Ø

0000   0000                   Ø         /LOCATION NOW USED FOR EDITOR READ
                                        /AND OUTPUT FORMAT OPTIONS, WERE
                                        /SWITCH REGISTER BITS Ø & 1.
0001   7730                   7730      /UPPER BUFFER LIMIT

                                  *1154

1154   5755                   JMP     I PALIII
1155   7746      PALIII,      CKPAL

                                  *1104

1104   1000                   TAD       Ø     /OUTPUT FORMAT OPTION
```

1

```
     1445   1000              TAD        0        /READ IN FORMAT OPTION CHECK.

                            *7746

     7746   3371   CKPAL,   DCA        ASCII    /SAVE CHARACTER
     7747   1376            TAD        STARTF
     7750   7650            SNA CLA             /HAS PAL BEEN STARTED?
     7751   5355            JMP        SETPAL   /NO
     7752   1371   PALOUT,  TAD        ASCII
     7753   6213            CIF CDF      10     /CHANGE TO FIELD 1
     7754   5774            JMP      I PAL
     7755   2376   SETPAL,  ISZ        STARTF   /SET PAL-STARTED FLAG
     7756   6213            CIF CDF      10     /CHANGE TO FIELD 1
     7757   5775            JMP      I START
     7760   1372   CHAR,    TAD        CIFLAG
     7761   7640            SZA CLA             /FIRST CHARACTER RECIEVED?
     7762   5773            JMP      I EDITR   /YES, GET NEXT CHARACTER
     7763   2372            ISZ        CIFLAG
     7764   5352            JMP        PALOUT
     7765   7300   CLEAR,   CLL CLA
     7766   3372            DCA        CIFLAG
     7767   3376            DCA        STARTF
     7770   5177            JMP        177
     7771   0000   ASCII,   0
     7772   0000   CIFLAG,  0
     7773   1157   EDITR,   1157
     7774   1404   PAL,     1404
     7775   0200   START,   200
     7776   0000   STARTF,  0
     7777   5365   ENTER,   JMP        CLEAR
```

/NOTE: THE FOLLOWING LOCATIONS IN THE EDITOR
/CONTAIN OSR INSTRUCTIONS. *1062 - BIT 2,
/TERMINATE OUTPUT AND RETURN TO CONTROL MODE.
/*1240 - BIT 10, HIGH OR LOW SPEED PUNCH.
/*1253 - BIT 11, HIGH OR LOW SPEED READER.

/PAL III MODIFICATIONS

FIELD 1

                *241

```
     0241   5642              JMP      I PASS    /PASS COMPLETE.
     0242   7600   PASS,      PASSD
```

                *1401

```
     1401   6203              CIF CDF    00      /CHANGE TO FIELD 0
     1402   5603              JMP      I EDIT
     1403   7760   EDIT,      CHAR
```

                *7600

```
     7600   6203   PASSD,    CIF CDF    00      /CHANGE TO FIELD 0
     7601   5602             JMP      I PCLEAR
     7602   7765   PCLEAR,   CLEAR
```

```
ASCII    7771
CHAR     7763
CKPAL    7746
CLEAR    7765
CIFLAG   7772
EDIT     1433
EDITR    7773
ENTER    7777
PAL      7774
PALIII   1155
PALOUT   7752
PASS     3242
PASSD    7603
PCLEAR   7602
SETPAL   7755
START    7775
STARTF   7776
```