ATTENTION

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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.

This 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 $BR_{11} = 1$ a print after each detected error occurs

1. **Code:** Lost bit in channel

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1</td>
<td>$W_{00}$, see Format</td>
</tr>
<tr>
<td>B</td>
<td>2</td>
<td>$W_{01}$</td>
</tr>
<tr>
<td>C</td>
<td>3</td>
<td>$W_{02}$</td>
</tr>
<tr>
<td>D</td>
<td>4</td>
<td>$W_{03}$</td>
</tr>
<tr>
<td>E</td>
<td>5</td>
<td>$W_{04}$</td>
</tr>
<tr>
<td>F</td>
<td>6</td>
<td>$W_{05}$</td>
</tr>
<tr>
<td>G</td>
<td>7</td>
<td>$W_{06}$</td>
</tr>
<tr>
<td>H</td>
<td>8</td>
<td>$W_{07}$</td>
</tr>
</tbody>
</table>

2. **Code:** Gained bit in channel

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>1</td>
<td>$W_{10}$</td>
</tr>
<tr>
<td>J</td>
<td>2</td>
<td>$W_{11}$</td>
</tr>
<tr>
<td>K</td>
<td>3</td>
<td>$W_{12}$</td>
</tr>
<tr>
<td>Code</td>
<td>Gained bit in channel1 (con't)</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------------------------------</td>
<td></td>
</tr>
<tr>
<td>L</td>
<td>4 ( W_{13} )</td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>5 ( W_{14} )</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>6 ( W_{15} )</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>7 ( W_{16} )</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>8 ( W_{17} )</td>
<td></td>
</tr>
</tbody>
</table>

3. \( \bar{I} \) failed to read \( W_{20} \), see Format
4. \( \bar{E} \) 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:

\[
\begin{array}{cccccccc}
W_{00} & W_{01} & W_{02} & W_{03} & W_{04} & W_{05} & W_{06} & W_{07} \\
W_{10} & W_{11} & W_{12} & W_{13} & W_{14} & W_{15} & W_{16} & W_{17} \\
W_{20} & W_{21} & W_{22} & & & & & \\
\end{array}
\]

To start program:

Load 6000

\( SR_{11} = 1 \) or \( SR_{10} = 1 \)

Start
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

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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 0 FIELD 0 THE EDITOR
BIT 0 & 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 0 FOR LOW SPEED
PUNCH OUTPUT.

LOADING INSTRUCTIONS - DEPOSIT RIM LOADER
INTO FIELD 1. LOAD DEC-08-LBAA-PM BINARY
LOADER INTO FIELD 1. LOAD DEC-08-ASAB-PB
2/24/67 PAL III BINARY TAPE INTO FIELD 1.
LOAD DEC-08-ESAB-PB 8/4/67 PDP-8 EDITOR,
HIGH AND LOW SPEED COMBINED INTO FIELD 0.
LOAD THE FOLLOWING OVERLAY OF BOTH FIELDS.

EDITOR MODIFICATIONS

FIELD 0

*0

3330 3233 0 /LOCATION NOW USED FOR EDITOR READ
AND OUTPUT FORMAT OPTIONS, WERE
SWITCH REGISTER BITS 0 & 1.

3331 7733 7735 /UPPER BUFFER LIMIT

*1154

1154 5755 JMP I PALIII
1155 7746 PALIII, CKPAL

*1104

1104 1300 TAD 0 /OUTPUT FORMAT OPTION
1445 1333 TAD 0 /READ IN FORMAT OPTION CHECK.

*7746

7746 3371 CKPAL, DCA ASCII /SAVE CHARACTER
7747 1376 TAD STARTF
7751 7652 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 12 /CHANGE TO FIELD 1
7757 5775 JMP I START
7758 1372 CHAR, IAD CIFLAG
7761 7643 SZA CLA /FIRST CHARACTER RECEIVED?
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 2000 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 13, 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 7630 PASS, PASSD

*1401

1401 6203 CIF CDF 00 /CHANGE TO FIELD 0
1402 5633 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

2
<table>
<thead>
<tr>
<th>ASCII</th>
<th>7771</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHAR</td>
<td>7763</td>
</tr>
<tr>
<td>CKPAL</td>
<td>7746</td>
</tr>
<tr>
<td>CLEAR</td>
<td>7765</td>
</tr>
<tr>
<td>C1FLAG</td>
<td>7772</td>
</tr>
<tr>
<td>EDIT</td>
<td>1433</td>
</tr>
<tr>
<td>EDITR</td>
<td>7773</td>
</tr>
<tr>
<td>ENTER</td>
<td>7777</td>
</tr>
<tr>
<td>PAL</td>
<td>7774</td>
</tr>
<tr>
<td>PALIII</td>
<td>1155</td>
</tr>
<tr>
<td>PALOUT</td>
<td>7752</td>
</tr>
<tr>
<td>PASS</td>
<td>3242</td>
</tr>
<tr>
<td>PASSD</td>
<td>7603</td>
</tr>
<tr>
<td>PCLEAR</td>
<td>7602</td>
</tr>
<tr>
<td>SETPAL</td>
<td>7755</td>
</tr>
<tr>
<td>START</td>
<td>7775</td>
</tr>
<tr>
<td>STARTF</td>
<td>7776</td>
</tr>
</tbody>
</table>