

To: Lisa Software, Hardware, NPR  
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Subj: Debugger for Release A5 and Monitor 11.9

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Lisabug has been modified to support the dot matrix printer and fix some confusion in Set and Display memory.

Debugger changes:

- a) The display memory commands (ie. DM, DW and DL) have been modified to use word moves. The display bytes command (ie. DB) still uses byte moves and allows use of odd addresses.
- b) The set memory commands (SW and SL) have been modified to use word moves. The set memory and set bytes commands (ie. SM and SB) still use byte moves and allow use of odd addresses.

Note: For both display and set memory, if a word operation is applied to an odd the address then the address is rounded down to the nearest word address.

- c) There is a new command CS (clear screen).
- d) There are five new commands for the printer.

PR expr            Printer

The PR command enables or disables printing to the two port card.

expr = 2            enable printing upper port  
expr = 1            enable printing lower port  
expr = 0            disable printing

Note: while printing is enabled all debugger output to the screen is echoed to the printer.

PS expr            Print Screen

The PS command dumps the entire upper or lower screen.

expr = 1            print primary screen  
expr = 0            print alternate screen

Note: If printing is disabled then nothing will happen.

FF                  Form Feed

The FF command sends a form feed to the printer if printing is enabled.

PL                  Print bug report via lower port  
PU                  Print bug report via upper port

The PL and PU commands dump a "bug report" to the printer. The bug report consists of the following:

- Dump of the primary screen.
- Dump of the alternate screen (OS only).
- Form Feed.
- Description of exception.
- Trace display.
- Stack crawl.
- Disassemble of 20 lines from PC- $\$20$ .
- Display words from RA6- $\$20$  for  $\$80$  bytes.
- Form Feed.

Note: after a PL or PU command, printing is left disabled.