

ALTMON – ROM monitor for the Altair 8800

This monitor is based on the 2.0C monitor from Vector Graphic. The original version has been updated to use Altair 2SIO serial ports for I/O and several commands have been added and/or modified.

A typical location for this PROM in an Altair is at F800, though it can be assembled at most any address. The stack is typically placed at the top of the minimum RAM you expect to have in your system.

Command Summary:

B boot Altair disk by jumping to Altair disk boot loader (FF00)
C SSSS FFFF CCCC compare blocks of memory
D SSSS FFFF dump memory in hex and ASCII
E SSSS FFFF DDDD exchange blocks of memory
F SSSS FFFF DD DD find two byte sequence in memory
G SSSS go to and execute
H P load Intel hex file from 2SIO port 0 or 1
I PP input from I/O port
J SSSS go to and execute (G)
K SSSS FFFF DD fill block of memory with “K”onstant
L P load Intel hex file from 2SIO port 0 or 1
M SSSS FFFF DDDD move block of memory
N non destructive memory test (size RAM)
O PP DD output to port
P LLLL program memory (modify memory)
Q SSSS FFFF compute checksum on range of memory
R jump to ROM at FC00 (e.g., alternate boot ROM)
S SSSS FFFF DD search for single byte in memory
T SSSS FFFF test memory

Following is a summary of changes from the original VG 2.0c monitor:

- All commands immediately echo a full command name as soon as the first command letter is typed (e.g., typing M immediately displays MOVE). This makes it easier to identify commands without a list of commands present. This is a feature found in the later 4.x monitors from VG.
- The ESC key can be pressed to abort input or commands as in the later 4.x monitors from VG. The original ctrl-c abort is still present as well.
- The B (boot) command jumps to the Altair disk boot loader PROM at FF00 instead of the North Star boot ROM.
- A (ASCII dump) command removed and D (hex dump) updated to display both hex and ASCII.

- X (exchange) command changed to the E command.
- H command added to load Intel hex file via either serial port on a 2SIO. The L (load and go from tape) does a hex file load as well (all tape commands eliminated).
- J treated as jump (i.e., go to) command instead of jump to North Star DOS.
- K treated as fill memory with Konstant instead of jump to zero (was the Z command which has been removed).
- R command changed to jump to the ROM at FC00. Was previously a read from cassette command. All cassette commands have been removed.
- The Y command (Vector Graphic relocating loader) command has been removed.
- The T test memory command skips the 256 byte page the stack is on to prevent crashing the program. A dot pacifier is displayed at the start of each cycle through the memory test range.

Using ALTMON

The command prompt is an asterisk. Backspace and DEL are not used. If you make a mistake, type ESC (or ctrl-c) to get back to the prompt and re-enter the command. Most executing commands can be aborted by ESC (or ctrl-c).

All commands are a single letter. Four hex digits must be typed in for an address. Two hex digits must be typed for a byte. The 2SIO port selection, (0 or 1) for the H or L (load Intel hex file) command, is a single digit.

The spaces you see between the parameters are displayed by the monitor – you don't type them. The command executes as soon as the last required byte is typed – a RETURN should not be typed.

Long displays (e.g., memory dump) can be paused/resumed with the space bar.