# CP/M for Poly-88 running an Altair Floppy Disk Controller

### Polex PROM

CP/M for the Poly-88 requires the Polex PROM (Poly-88 Extension) to be installed in the 2$^{nd}$ PROM socket on the Poly-88 CPU board. Polex handles run-time swapping of PROM and RAM in the first 4K of memory and provides console and serial I/O for CP/M. See the Polex folder for more information.

### BootMod PROM

BootMod is an extension module PROM for Polex. The PROM installs in the 3rd PROM socket on the Poly-88 CPU board. It provides a single boot command (BO) for a variety of floppy controllers including Altair, Micropolis, Tarbell, and both the single density and double density North Star controllers. BootMod is located in the Polex folder and is required to boot from an Altair floppy.

### Altair Floppy Disk Controller

The default I/O address for the Altair FDC is 08h-0Ah. However, this conflicts with the real time clock in the Poly-88, so the Poly-88 version of CP/M expects the Altair FDC to be at I/O addresses 80h-82h.

### Disk Image Files

**CPM22B11-56K.DSK** is track-buffered CP/M 2.2 for a Poly-88 running an Altair floppy disk controller with 8 inch drives. CP/M on the disk is sized for 56K of RAM. A customized MOVCPM is included to size CP/M for different amounts of RAM (run MOVCPM followed by SYSGEN). Included are typical CP/M programs as well as file and disk image transfer utilities to exchange data with a PC.

Based on "Burcon CP/M 2.2" for the Altair from 1980, this version of CP/M implements full track buffering of both reads and writes to improve performance. Unlike the default configuration of Altair (Burcon) CP/M, disk writes *are* verified. Even with write verify, performance of virtually all programs with substantial disk I/O is improved by 20%-70%. Loading of programs and other sequential reads improve by more than 50%.

### IOBYTE

Poly-88 CP/M provides full IOBYTE support. The IOBYTE allows redirection of logical CP/M devices to different physical devices. IOBYTE implementation is required by some programs (e.g., Kermit) for proper operation. The possible logical-to-physical device assignments are shown below:

| CON device (bits 1,0): | PUN device (bits 5,4): |
|---|---|
| 00 - TTY uses serial port | 00 - TTY uses serial port |
| 01 - CRT uses keyboard/video* | 01 - PTR uses serial port* |
| 10 - BAT indirect through RDR and LST logical device | 10 - UR1 uses serial port |
| 11 - UC1 uses serial port | 11 - UR2 uses keyboard/video |
| **RDR** device (bits 3,2): | **LST** device (bits 7,6): |
| 00 - TTY uses serial port | 00 - TTY uses serial port |
| 01 - PTP uses serial port* | 01 - CRT uses keyboard/video |
| 10 - UP1 uses serial port | 10 - LPT uses serial port* |
| 11 - UP2 uses keyboard/video | 11 - UL1 uses serial port |

\* = Default IOBYTE

The STAT utility in CP/M is typically used to change device assignments. These assignments are temporary and the defaults shown above are restored whenever CP/M is cold started. To permanently modify the IOBYTE, use DDT to patch location 25DAh of a CP/M SYSGEN image while the image is in memory. After exiting DDT, immediately run SYSGEN to write the patched CP/M image to the boot tracks, or save the memory image to a CPMxx.COM file.