

CP/M for Poly-88 running a Tarbell Single Density Floppy Controller

Polex PROM

CP/M for the Poly-88 requires the Polex PROM (Poly-88 Extension) to be installed in the 2nd 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 a Tarbell floppy.

Tarbell Single Density Floppy Disk Controller

The default I/O address for the Tarbell FDC is typically F8h. However, this conflicts with the keyboard in the Poly-88, so the Poly-88 version of CP/M expects the Tarbell FDC to be at I/O addresses E8h.

Disk Image Files

CPM22B12-56K.DSK is track-buffered CP/M 2.2 for a Poly-88 running a Tarbell single density FDC 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.

The BIOS uses full track buffering on both reads and writes to improve performance. Performance is 20%-70% faster than the non-buffered Tarbell BIOS for typical disk based operations. Disks are fully interchangeable with the non-buffered versions of CP/M 1.4 and 2.2.

In order to fit in the boot tracks of a standard SSSD IBM format soft sectored 8" disk, the code and initialized data portion of this BIOS can only be 380h bytes long. This restriction substantially reduces the features that can be provided by this BIOS and required a few tricks in the code to save space. The source file has a conditional assembly statement to detect when this size limit is exceeded. Look for "BIOS IS TO BIG ****" as an error statement when assembling.

IOBYTE

Poly-88 CP/M provides partial IOBYTE support. The IOBYTE allows redirection of logical CP/M devices to different physical devices as shown below:

CON device (bits 1,0): 00 - TTY uses serial port 01 - CRT uses keyboard/video* 10 - BAT uses serial port 11 - UC1 uses serial port	PUN device (bits 5,4): 00 - TTY uses serial port 01 - PTR uses serial port* 10 - UR1 uses serial port 11 - UR2 uses serial port
RDR device (bits 3,2): 00 - TTY uses serial port 01 - PTP uses serial port* 10 - UP1 uses serial port 11 - UP2 uses serial port	LST device (bits 7,6): 00 - TTY uses serial port 01 - CRT uses keyboard/video 10 - LPT uses serial port* 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 1FB4h 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.