TI Professional Computer

After the IBM PC came out companies were trying to figure out how to compete. One attempt was to improve on the PC to make your machine more desirable. This was not successful in the long term when it prevented IBM software from running. In the DOS era, the BIOS and operating system had calls to do functions like writing to the screen, but they were both limited and slower than directly accessing the hardware. Most software talked directly to the hardware so would not run if hardware had significant changes. The TI BIOS also was not fully compatible with the IBM and the improved graphics were incompatible with IBM. TI was large enough that initially they were able to get the major software packages made for their machine, but software vendors lost interest when the volume of the IBM compatible machines was compared to the volume of any of the not really compatible machines. This computer and its luggable cousin were both released in January 31 1983, slightly before the IBM XT released in March. TI also later released the Business Pro IBM compatible 80286 machine with optional TI Professional compatibility before exiting the market.

We bought the TI because of the better graphics. The IBM PC was offered with the Monochrome Display Adapter (MDA) which had high quality text (7x11 in 9x14 cell) but no graphics and the Color Graphics Adapter (CGA) which had low quality text (8x8, less with space between characters) in 16 colors. It could also do 640x200 monochrome graphics or 320x200 in 4 colors. The better IBM EGA graphics wasn't released until October 1984. The TI had a base text display of 7x9 in 9x12 cell and 8 colors. A daughter board was offered that supported 720x300 monochrome graphics or with additional memory chips 8 colors.

We purchased the machine with 256k memory, dual floppy drives, and probably the single plane graphics and the monochrome monitor in 1983. We later bought the third party Seeker memory expansion board to bring the memory up to 768k and a time of day clock board. The Seeker board had a SASI/SCSI interface. Later through the local TI users group we got a good buy on a SASI to ST-506 adapter board and a TI 10M full height hard drive, which we installed in place of one of the floppy drives. At some point we replaced the other full height floppy with a 1/2 height 5.25" floppy, still 360k, and 720k 3.5" floppy. When a 20M hard drive failed at my brother's work, he got it and I was able to repair it and install it in the TI. That drive later was moved to a newer machine so the original 10M drive is back in.

Due to companies not offering new software for the TI, we bought a compaticard which allowed most IBM PC software to be run on the TI by booting into IBM compatible mode. We did get a IBM clone I think in the 386 era and this machine became the machine my father played with writing little programs in Turbo Pascal and BASIC and played chess. Machine was used until around 1997.

Original Configuration

Programs Available to Run

To boot a floppy: Put floppy for holder in 5.25" drive
alt-ctrl-delete
hit escape when flash at top of screen and text shows up.

*Graphics Demo: cd pictures[CR]picloop[CR]. Easiest to reboot to stop. Add bugle to do sound.

*Texas Picture Show (gif viewer that some of pictures above from): cd games[CR]tps20 filename.gif[CR].

#Rabbit Program (software I wrote for our rabbitry)**: cd** dbase\mini[CR]rabbits[CR] 2 [CR] PJO6 [CR] then follow prompts. ESC undo, F3 exit, Tab next field.

#Show Program (early version)**: cd show**[CR]show[CR]. Setup for different printer so printing funny

*Print Banner:cd signmakr[CR]banner[CR]bdr30 small, bdr66 big. Dir to see other. Output prn

#Zork II: cd games[CR]zorkii[CR]

@Zork III: Uses non standard disk format so must boot floppy to run

@Microsoft flight simulator: Uses non standard disk format so must boot floppy to run

#KEDIT editor (based on IBM VM/CMS XEDIT): k filename. F3 exit, QQUIT exit without saving. Has neat features such as able to mark and copy block of lines and to include and exclude lines from editing based on patterns. Has REXX programming language for custom behavior. Modified binary to get it to run on TI.

#EasyWriter II word processor:cd ewii[CR]ewii[CR]. Select 2 open folder use default rabbits then 1 edit. ESC to exit document.

*Chess program: cd tigames[CR]chess-ti[CR].

*SILO (shooting game) cd tigames[CR]silo[CR].

@UCSD Pascal OS: Put Runtime disk in drive A and development disk in drive B and follow boot instructions. Did use UCSD Pascal on IBM 5150 for first computer science class in college.

@Concurrent CP/M -86: Hangs on boot. If you have experience help me get it working.,

IBM PC Emulation: Put CSTI disk in floppy drive and follow boot instructions.
IBM Programs:
Chessmaster: cd chess[CR]cmaster[CR]F1 menu

Checkers: cd checkers[CR]checkers[CR]

**PFSFile**:cd pfsfile[CR]pf[CR]

- From original use of this computer
* - From disks we got from the TI users group we were a member of. Put on computer for VCF.
@ - Found online, for VCF.

Machine was justified to Mom for automating her rabbitry, show secretary paperwork, and other

paperwork. Wrote program for storing rabbit pedigree information and printing pedigrees and breeding cards. Also wrote program for handling rabbit show and inventory of her rabbit supplies. The pedigree and show programs we sold.

ST506/ST412 Hard drive emulator.
Can read and emulate drives.
$157

See http://www.pdp8online.com/mfm
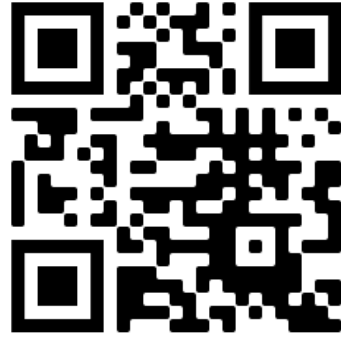
ST506/ST412 Hard drive bare board.
Can read and emulate drives. Will
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Digikey/Mouser BOM on website and
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$15

See http://www.pdp8online.com/mfm
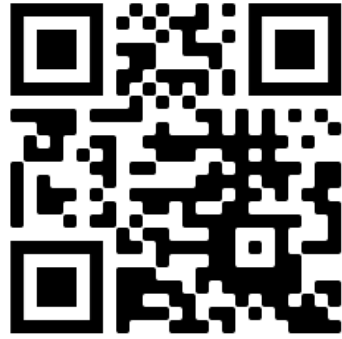
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This page has information on the MFM hard disk reader and emulator I have been working on. The unit is intended to read MFM hard drives for archiving and to emulate one or two MFM hard drives to replace failing MFM drives. The image read from a real hard drive can be used for the emulation.

In theory the unit can emulate any MFM hard drive. In practice there are enough variations in how controllers use the drives that software changes have been needed to make it work with some systems. You will need to use a command line to operate the unit for reading disks and to configure it for emulating disks.

It should be able to read and save the raw transition data from most any hard drive using the ST506/ST412 interface. An adapter board is available to allow use with the SA1000 interface used on Shugart SA100# and Quantum Q20#0 8 inch hard drives. People are still running across formats it can't decode to sector data. For formats that are minor variations adding support doesn't take too long. For some controllers which did their own undocumented thing it can be significant effort to figure out the format. Handling physical to logical translation that some smart controllers did or any file system interpretation is outside the scope of this project.
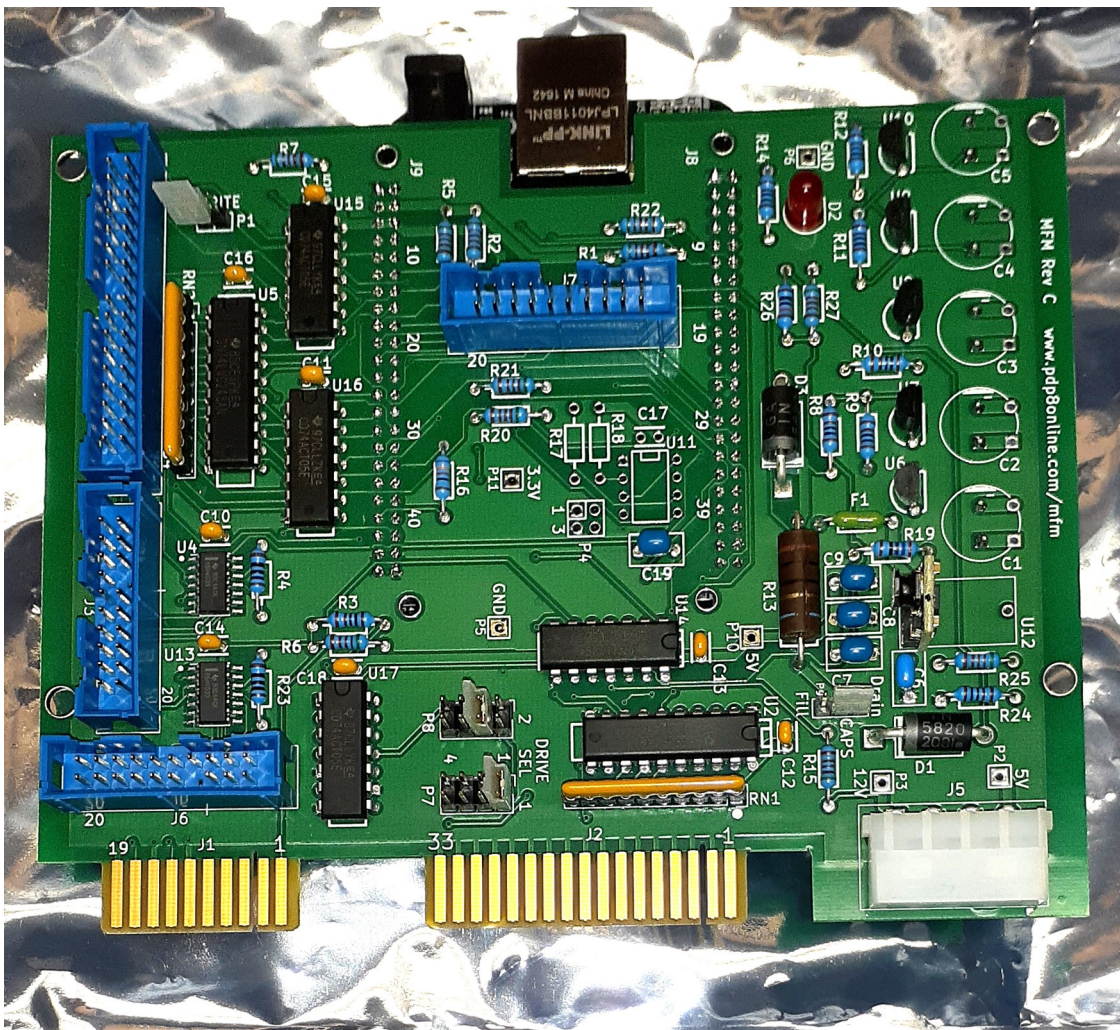
Over

Writing to real disks is experimental supported.

Caps allow clean shutdown of the BeagleBone when host computer power is turned off. You will need to log into the BeagleBone to initially configure the board.
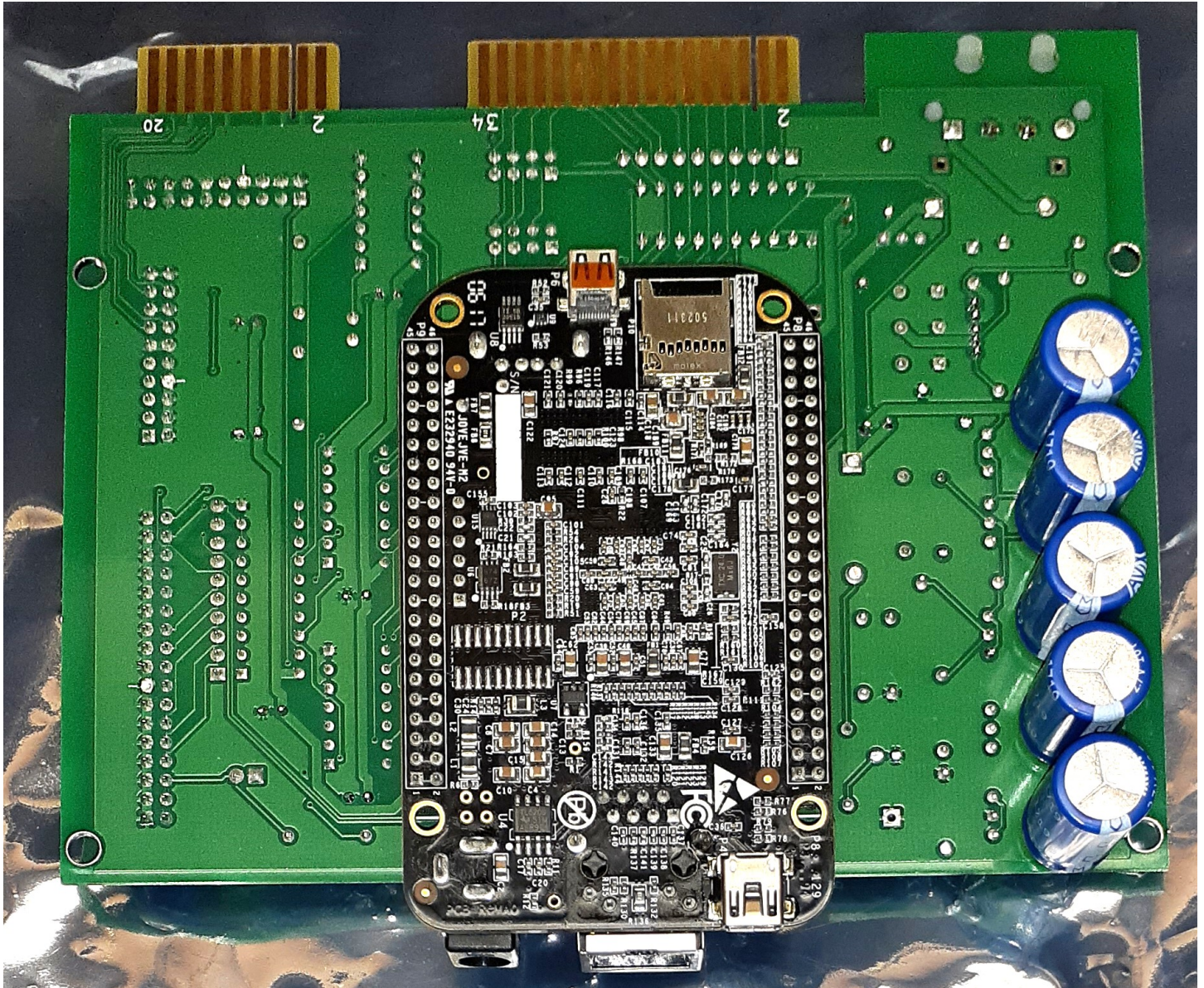
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