

Qume 842 8 inch Floppy Disk Drive as Altair Drive used with the Altair FDC+

The Qume 842 (DataTrak 8) is a double-sided, double-density, full-height, 8 inch drive. The DC connector is the same as the Shugart 80x and 85x drives (though the -5v supply is not required). The AC connector is the same as the Shugart 85x drives (the DSDD drive, not the 80x drives).

The index output of the 842 activates for all 32 sector holes plus the index hole, so even though this drive is typically used with soft sector media, it will work with the hard sector media expected by the Altair.

The stepper timing is designed to work with 3ms steps. When stepped at 10.5ms with Altair/Perfec timing, the stepper is *very* noisy. It is recommended that the step rate be changed to 3ms using the FDC+ monitor.

The following drive jumper settings should be used with the Altair FDC+:

- On the 16 pin programmable shunt: A, B, R, I should be closed. X, Z, HL should be open (lift pin out of socket)
- Install jumpers C and Y, all other header jumpers removed
- Install drive select jumper DS1-DS4
- Install terminator packs TM1, TM2 in last drive on cable

For use with the Altair FDC and FDC+, the door latch should be disabled – sometimes ejecting a disk is the only way to de-select a drive and remove a disk when software is hung. Resetting the computer and re-starting doesn't necessarily release the drive. I disabled the door latch solenoid by removing pin B2 (+24v to solenoid) from the J2 housing.

I do not have the Qume specified alignment disk part numbers. I used the typical Shugart and Dysan alignment disks (e.g., Shugart SA120 or Dysan 360A or 360/2A). The radial alignment pattern is fine for either drive, however, I'm not sure about the index alignment. For interchange with Altair and Shugart drives, I found I had to pull in the index timing from the spec'd 200us to something shorter. For example, interchange was reliable with 150us timing but not at 200us. Further research is required to determine the index timing that is nominal.