FDC-1 TECHNICAL NOTES - ISSUE 1

Because of the large number of SYM owners who have installed FDC-1 Disk Systems, FDC-1 Technical Notes will become a regular feature of the newsletter. Here is the first set of notes:

Number 1.1

About 10% of the FDC-1 boards seem to behave in a very erratic manner. A serendipitous fix was discovered by Jeff Lavin, who wired his board in such a way as to bring the +5V in from the SYM-1 instead of through the turret pin.

By adding the jumper shown in the figure below to the inoperative boards sent to him for trouble-shooting, Jeff got all of these boards to operate properly. The +5V can still be brought in at the turret pin as well as through pin 21.

Number 1.2

The timeout routines provided in the FDC-1 software do not set the timer correctly, and must be rewritten. This will be done in the near future. Meanwhile, it does not matter anyway, inasmuch as the IRQ output of the 6532 has not even been connected on the SYM-1! You may wish to jumper pin 25 of the 6532 (U27) to pin 4 of the 6502 (U5) to enable the interrupt capability of the 6532.

Number 1.3

With some single-sided 5 1/4" drives, in particular those from BASF, the .L7 operation is unusually long because of the second-side search. While this may be fixed in the software, a quick hardware "fix" is as follows:

Bend up pins 9 and 10 of U14 so that they will not go into the socket. Tie them to pin 7 (GND), then replace the chip.

We can't remember who first gave us this fix, but we thank him for it.

Number 1.4

Correct the FDC-1 schematic as follows:

Pin 8 of RP1 is left unconnected.

MORE ON FDC-1 FIX

To ensure greater stability (?) on the +5 V line, tie more of the +5 V points together. We tied the hole marked "+" between RP1 and pin 14 on U8 to the +5 V turret pin with #22 hookup wire. We don't think the problem is due to lack of decoupling capacitors; rather we feel that there is too much ohmic resistance in the traces, or plated-through holes. The suggested fixes work, although just why is still uncertain.