# MICRO-DISK SYSTEM ERRATTA AND ADDITIONAL INFORMATION

## February 15, 1977

1. Capacitor C2 should be marked as 6.8uf (not 10uf) on the silk screen legend for the MDS controller board.

2. The following fix must be made to the MDS controller PC board in order to increase the reliability of reading data written using a different drive.

   a. Cut traces to 8E pin 4 and 8E pin 5. These cuts may be made on the solder side. The connection 8E pin 3 to 8E pin 12 to 9F pin 14 should remain.

   b. Add a jumper wire from 8E pin 4 to 9D pin 10.

   c. Add a jumper wire from 8E pin 5 to 1E pin 12.

3. A 74LS157 may be substituted for a 74LS257 in location 2F of the controller PC board. Some kits will include a 74LS157 in place of a third 74LS257.

4. Interrupts during disk data transfer operations will cause data transfer errors. In systems where interrupts can occur, interrupts can be prevented by disabling interrupts before accessing the disk. The POLY-88 System with the 4.0 monitor causes continuous real time clock interrupts. This interrupt should be disconnected on the processor board to allow proper operation of the disk system.

Please send us feedback about the MICRO-DISK System documentation. We would like to make this documentation as complete, clear, and accurate as possible.

# MICRO-DISK SYSTEM ERRATA AND ADDITIONAL INFORMATION

## May 11, 1977

1. The current release number for the on board bootstrap PROM's is 3. The correct labeling of the three PROM's in a standard system is LE820-3, RE820-3 and SE8-1.

2. When reading and writing data files, BASIC fails to check that the file pointer is within the range of the file. Thus, BASIC programs must be very careful not to specify illegal data file transfers.

3. Interrupts during disk data transfer operations will cause data transfer errors. In systems where interrupts can occur, interrupts can be prevented by disabling interrupts before accessing the disk. The POLY-88 System with the 4.0 monitor causes continuous real time clock interrupts. This interrupt should be disconnected on the processor board to allow proper operation of the disk system.

4. Applying power to a disk drive while the ribbon cable is incorrectly plugged in to either the drive or the controller can DO DAMAGE TO THE DISK DRIVE! It is very important that the instructions given in the CABLE CONFIGURATION section of the MICRO DISK SYSTEM document be followed very carefully.

5. A few disk controller boards will exhibit intermintant failure as a result of glitches on the HUNT signal. If this problem exists, the glitches at HUNT can be observed on a scope. The problem can be fixed with the following modification to he disk controller board.
   - Cut trace connecting 9E pin 1 to 9E pin 15.
   - Add jumper wire connecting 9E pin 1 to 9F pin 7.

6. Disk drives now being delivered must be programmed somewhat differently than what is described in the DISK DRIVE CONFIGURATION section of the MICRO DISK SYSTEM document. The MUX trace which must be cut for multiple drive operation is now located on the header at 1F and is the strap labeled MX. The five straps that were labeled T1, T2, T3, T4, and T5 have been removed. The termination resistors are located at 1E. This resistor package should be removed in all drives except the one at the end of the ribbon cable. Be sure that the HS strap at 1F remains connected and the HM strap remains disconnected.


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MICRO-DISK ERRATA

JULY 26, 1977

When assembling the disk controller printed
circuit boards labelled MDC-A3, the following
modification must be made for correct
operation:

1.  On the soldering side, cut the trace con-
    nected to 9F pin 7.

2.  On the soldering side, cut the trace con-
    necting 9G pin 1 to 9E pin 15.

3.  On the solder side, solder a wire between
    9E pin 15 and 9F pin 7.

4.  On the solder side, solder a wire between
    9F pin 11 to 9G pin 1.
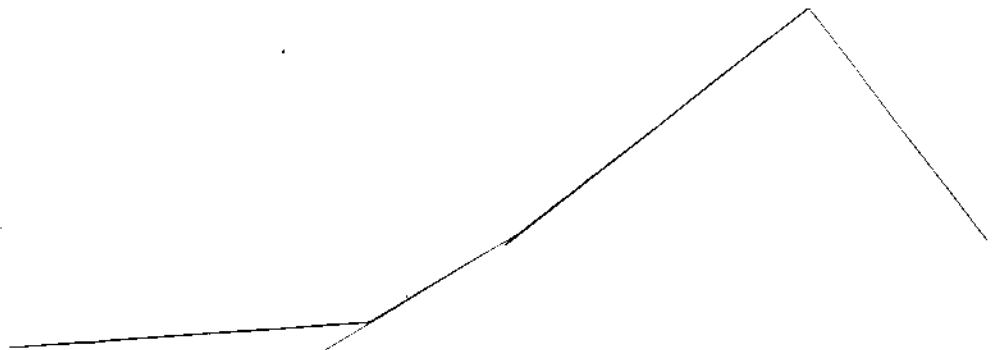
# MICRO-DISK SYSTEM ERRATA AND ADDITIONAL INFORMATION

## July 28, 1977

1. The current release number for tne on board bootstrap PROM´s is 3. The correct labeling of the three PROM´s in a standard system is LE820-3, RE820-3 and SE8-1.

2. The power PC poards (revision 2) have been changed. The LM317K regulator has been replaced by a 7812 (or LM340-12) regulator. Also, the two resistors called R1 and R2 have been removed.

3. Interrupts during disk data transfer operations will cause data transfer errors. In systems where interrupts can occur, interrupts can be prevented by disabling interrupts before accessing the disk. The POLY-88 System with the 4.0 monitor causes continuous real time clock interrupts. This interrupt should be disconnected on the processor board to allow proper operation of the disk system.

4. Applying power to a disk drive while the ribbon cable is incorrectly plugged in to either the drive or the controller can DO DAMAGE TO THE DISK DRIVE! It is very important that the instructions given in the CABLE CONFIGURATION section of the MICRO DISK SYSTEM document be followed very carefully.

5. On page 28 of Micro-Disk System document the schematic should be changed so that 9G pin 1, 9E pin 15, 9D pin 11, and 9E pin 1 are labeled WINDOW/ instead of SP/.

6. The revision 3 controller boards have been modified to allow E800 to serve as a bootstrap address as well as E900. The schematic on page 27 should be modified so that 3E pin 14 and 3F pin 14 are connected to ground.

7. Disk drives now being delivered must be programmed somewhat differently than what is described in the DISK DRIVE CONFIGURATION section of the MICRO DISK SYSTEM document. The MUX trace which must be cut for multiple drive operation is now located on the header at 1F and is the strap labeled MX. The five straps that were labeled T1, T2, T3, T4, and T5 have been removed. The termination resistors are located at 1E. This resistor package should be removed in all drives except the one at the end of the ribbon cable. Be sure that the HS strap at 1F remains connected and the HM strap remains disconnected.

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# MICRO-DISK SYSTEM ERRATTA AND ADDITIONAL INFORMATION

## January 21, 1977

1. The holes on the power regulation PC card for mounting the 7805 heat sink may require a slight amount of reaming. Do not over-ream, as the heat sink should fit snugly in the holes for mechanical support.

2. In some cases disk drives may not operate properly if located in the vacinity of TV's, electric motors, or other sources of electrical noise. This may be remedied by moving the disk drive away from the noise source or by installing the disk drive in a grounded cabinet.

3. Identification of PROM's.

   | Location | Schematic Label | PROM Label | Standard Label |
   |----------|-----------------|------------|----------------|
   | 7G | PSEL | Sxx-1 | SE8-1, S38-1 |
   | 3F | PGML | Lxx-xx-1 | LE8-20-1,L38-20-1 |
   | 3E | PGMR | Rxx-xx-1 | RE8-20-1,R38-20-1 |

4. Capacitor C2 should be marked as 6.8uf (not 10uf) on the silk screen legend for the MDS controller board.

5. The following fix must be made to the MDS controller PC board in order to increase the reliability of reading data written using a different drive.

   a. Cut traces to 8E pin 4 and 8E pin 5. These cuts may be made on the solder side. The connection 8E pin 3 to 8E pin 12 to 9F pin 14 should remain.

   b. Add a jumper wire from 8E pin 4 to 9D pin 10.

   c. Add a jumper wire from 8E pin 5 to 1E pin 12.

   d. Modify page 2 of the schematic drawings so that the inputs to the gate 8E are pin 4-BODY/ (instead of TRANS and BIT) and pin 5-BYC3 (instead of WRITE REQ/). Give name "BYC3" to 1E pin 12 (counter output on page 3).

6. A 74LS157 may be substituted for a 74LS257 in location 2F of the controller PC board. Some kits will include a 74LS157 in place of a third 74LS257.

7. The exact values of capacitors on the MDS controller PC board are not critical. Some kits will be shipped with values slightly different than those specified in the instructions. For example, .047uf instead of .05uf.

8. In Appendix 1 of the Disk Operating System manual, there is an error in the comment about the use of registers for the CIN subroutine. Registers B, C, D, E, H, and L must be preserved by your CIN routine. Some sample I/O routines are as follows:

```
CIN    IN 0          GET KEYBOARD INPUT STATUS
       ANI 1         MASK DOWN TO INPUT STATUS BIT
       JNZ CIN       JUMP IF NO CHAR TYPED YET
       IN 1          KEYBOARD DATA PORT
       ANI 7FH       MASK DOWN TO 7-BIT ASCCI CODE
       RET
COUT   IN 0          GET STATUS
       ANI 2         MASK DOWN TO OUTPUT STATUS BIT
       JNZ COUT      JUMP IF NOT OK TO OUTPUT CHARACTER
       MOV B,A  ?
       OUT 1         OUTPUT THE CHARACTER
       RET           NOTE THAT CHAR IS IN ACC NOW
CONTC  IN 0          GET STATUS
       ANI 1         MASK DOWN TO INPUT STATUS BIT
       XRI 1         SET Z FLAG FALSE IF NO CHARACTER TYPED
       RNZ           RETURN WITH Z FALSE IF NO INPUT
       IN 1          READ THE CHARACTER
       ANI 7FH       MASK DOWN TO 7-BIT ASCII
       CPI 3         SET Z IF CHAR IS CONTROL-C
       RET
TINIT  RET           THIS TINIT ROUTINE DOES NOTHING
```

9. The following lines of code should be added to the end of Appendix 1 of the Disk Operating System manual:

```
202B           *
202B           *THIS BYTE IS THE "READ-AFTER-WRITE-CHECK" FLAG
202B 00        RWCHK DB 0
```

10. There are two DOS commands not described in the DOS manual:

CD <source unit #> <destination unit #>
   This command will copy the contents of the diskette mounted on the specified source unit to the diskette mounted on the specified destination unit. Note that the 2.5K of RAM immediately following the DOS are required for this command.

CO <unit #>
   This command may be used to "compact" the file space on the diskette mounted on the specified unit. Any unused disk space between existing files will be eliminated by moving files toward track 0. The CO command may be used to reclaim file space when a file is shortened or deleted. Note that this command requires use of the 2.5K RAM area immediately following the DOS.

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11. Line number 190 of the last sample program in the Appendix of the BASIC manual should read:

    190 READ #0%5*X,X2\ REM EACH FP VALUE USES 5 BYTES

12. The following errors should be corrected in the assembly manual:

    page 17, step 3: Wave form 4 should read 1D pin 11, 8us.

    page 17, step 3: Wave form 5 should read 2D pin 11, 128us.

    page 19, step 4: The heat sink part number should read 690-3, not 695-3.

    page 23, item 3: The opcode for the LDA instruction should read 3A, not 22.


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