4.0 TROUBLESHOOTING

Microscience

4.1 INTRODUCTION

This section describes the procedures needed to troubleshoot problems that may arise when installing the Hard Disk System.

If these procedures fail to give a solution to your problem, recheck your steps, document the problem, and check with the technical support department where you bought the system.

4.2 POWER–ON FAILURES

The most common problem on Power–on is a 1701 error, or the green LED on the front Hard Disk Drive front panel can not stay alight.

If this is the case, check the following errors for possible problems.

( ) Check the controller is plugged properly in the expansion slot.

( ) Check the cables orientation on the controller and the Hard Disk Drive. Verify that pin 1 of the cable goes to the pin 1 of the connector.

( ) Verify that the 20–Pin connector is plugged in JO of the controller.

( ) Check that the terminator switches on the Hard Disk Drive is as described in section 2.0

Specifications For HH-725, 20 MB, 5.25" Half-Height Winchester Disk Drive

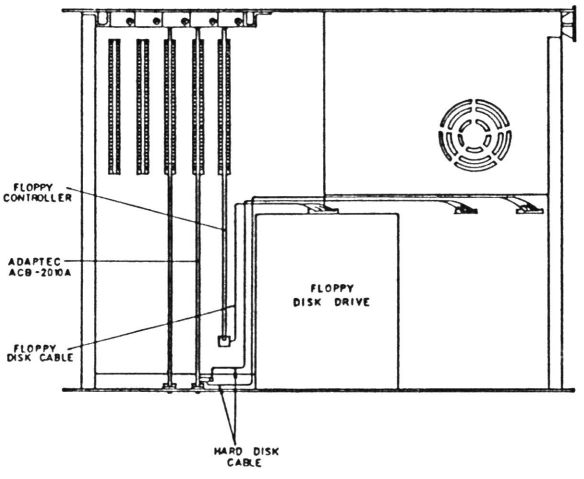
Capacity Unformatted		
Per drive	25.52	MBytes
Per surface	6.38	MBytes
Per track	10,416	Bytes
Formatted		
Per drive	20.00	MBytes
Per surface	5.00	MBytes
Per track	8,192	Bytes
Per sector	256	Bytes
Sectors per track	32	
Data Transfer Rate		
5.0 Mbits per second		
Average Latency		
8.45 msec		
Access Time		
Track to track	3	msec
Average	80	msec
Maximum	205	msec
Avg. settling time	35	msec
Functional Specifications		
Rotational speed 3,550 rpm ± 0.1%		
Recording density	9,680	bpi
Flux density	9,680	fci
Track density	648	tpi
Cylinders	612	
R/W tracks	2,448	
Platters	2	
Heads	4	
Interface		
ST 506/412		
Reliability Specifications		
MTBF (typical usage)	14,000	poh
Preventive maintenance	none	
Component life	5 years	
Error rates		
Soft read errors	1 in 10^{10}	bit read
Hard read errors	1 in 10^{12}	bit read
Seek errors	1 in 10^{4}	seeks

Power Requirements	
DC voltage	+ 12 volts ±5% @ 1.8A max./ 0.60 typ. 1.6A starting + 5 volts ±5% @ .65A typical
AC voltage	not required
Power dissipation	11.0 watts
Environmental Limits (Operating)	
Ambient temperature	40° to 122°F (5° to 50°C)
Relative humidity	8 to 80%
Wet bulb. maximum	78°F, non-condensing (25.5°C)
Vibration	5–60 Hz, .006" p-p 60–500 Hz, .35g pk
Shock	10g, 11 msec
Environmental Limits (Non-Operating)	
Ambient temperature	–40° to 140°F (–40° to 60°C)
Relative humidity	8 to 80%
Wet bulb. maximum	78°F non-condensing (25.5°C)
Vibration	5–30 Hz, .04" p-p 30–500 Hz, 2g pk
Shock	40g, 11 msec
Mechanical Dimensions	
Height	1.625 in.
Width	5.75 in.
Length	8.00 in.
Weight	3.25 lb.
Safety Approvals	
Underwriters Laboratories	
Canadian Safety Association	
T.U.V.	

Specifications subject to change without notice.

( ) Route cables around the other expansion cards, then around the back of the left-hand floppy disk drive, and into the area behind the hard disk.

( ) Carefully bend the cables as necessary to allow access to the rear of the hard disk drive.



( ) Check the terminator switch SW 1 at the rear of hard disk printed board circuit as shown.