FD55GF

Half Height, DSHD Disk Drive
User's Manual

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INTRODUCTION

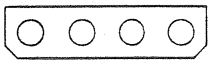
1. Product Description

The FD55GF is a standard 5.25" floppy disk drive, able to be used on most personal computers on the market today. Before installing your new drive, read through all of the documentation. You may very well need to move a jumper in order for the drive to be configured correctly for your system.

2. Specifications

Capacity (MFM)		
Unformatted, per disk	1.6	Mbytes
Formatted, per disk	1.2	Mbytes
Recording		
Bits, per inch	9,646	
Tracks, per inch	96	
Data Transfer Rate, per second	300/500	Kbits
Media		
Bytes, per sector	512	
Sectors, per track	15	
Number of sides	2	
Cylinders, per disk	80	
Tracks, per disk	160	
Index	1	
Performance		
Average Latency	83.3	msec
Seek Time	3	msec
Settling Time	10	msec
Average Access Time	93	msec
Motor Starting Time	500	msec
Spindle Speed	360	rpm
Power		
Consumption, Operating	4.1	watts
Consumption, Stand-by	1.5	watts
Requirements	+12VDC @ 1A max +5VDC @ 460mA max.	
Temperature		
Operating	4° to 46° C 40° to 115° F	
Storage	-22° to 60° C -8° to 140° F	
Dimensions		
Width	5.75	inches
Height	1.625	inches
Depth	8.0	inches

Power Connector

Terminal	Color	Description	Connector Diagram
1	Red	+5 VDC	
2	Black	Ground	
3	Black	Ground	
4	Yellow	+12 VDC	

34-Pin Control Cable

Pin	Direction	Description
2	Input	Density Select
4	-----	Spare
6	Input	Drive Select 3
8	Output	Index/Sector
10	Input	Drive Select 0
12	Input	Drive Select 1
14	Input	Drive Select 2
16	Input	Motor On
18	Input	Direction Select
20	Input	Step
22	Input	Write Data
24	Input	Write Gate
26	Output	Track 00
28	Output	Write Protect
30	Output	Read Data
32	Input	Side Select
34	Output	Diskette Change

NOTE: All odd pins are GROUND.

3. Precautions

When working with any circuit board or IC, some precautions need to be observed for the safest installation. Many parts are static sensitive and may be easily damaged by static electricity that may have built up in your body. The best way to assure that no damage comes to your new equipment is to observe a few precautions:

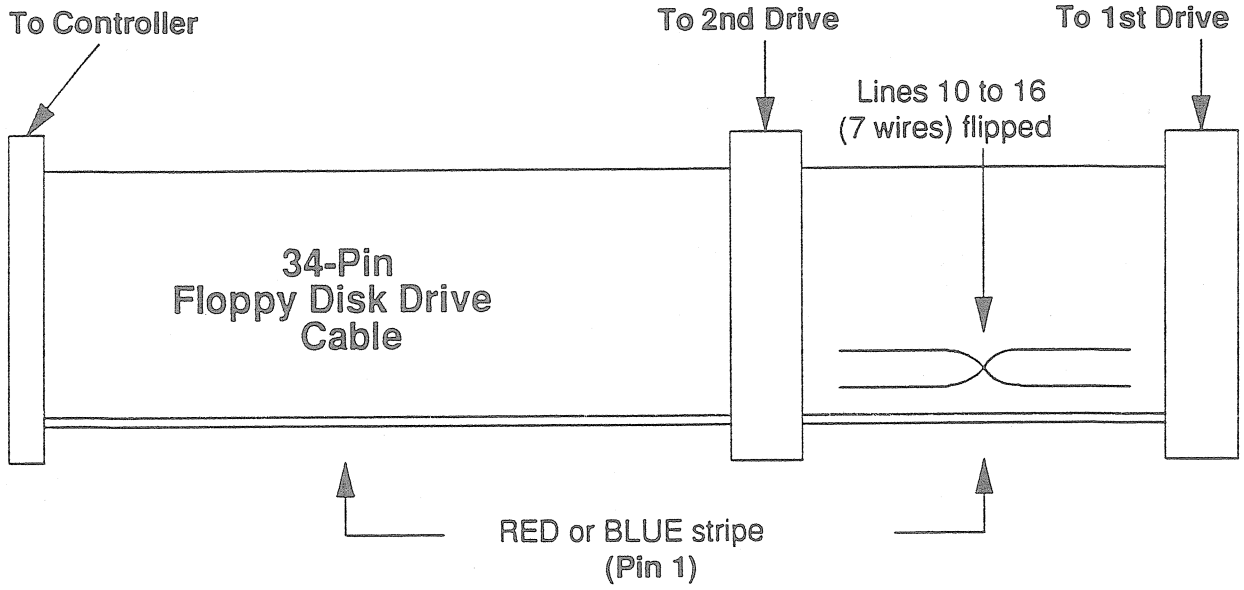
1. Whenever you move your body, you can easily build up enough static electricity to damage a board. When handling a board or chips, ground yourself often. The best way to do this is with a grounding wrist strap that is properly connected to a frame ground. These may be purchased through Jameco Electronics (Part # WS). Another method to ground yourself would be to plug the computer's power supply into a grounded outlet (but leave it turned off), then touch the frame of the power supply often to dissipate any static charge that you may have built up.
2. Make sure that the power supply is turned OFF before installing or removing anything.
3. Hold all boards by the edges.

INSTALLATION

1. Drive Select Straps

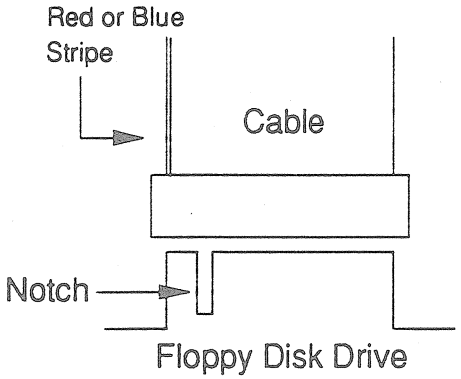
The header style pins on the bottom side of the drive are known as straps. These are the Drive Select straps. A strap with a black jumper across it is considered "ON". With no jumper, it would be considered "OFF". These straps determine the designation (0,1,2,3) for each drive in the system. You may receive your drive with a jumper across DS0. Your system may refer to its drives as 1 through 4 or A through D. In these cases, drive 4 and D would be considered drive 3, respectively. Only one Drive Select should be jumpered at any time.

IBM PC, PC/XT, PC/AT and compatible systems require that BOTH drives be selected as the second drive in the system (i.e. there should be a jumper across DS1 on both drives). At one end of the control cable you will find a piece of cable with seven wires "flipped". This is the end that drive A must be connected to. Drive B, if installed, should be attached to the middle connector. The drive controller attaches to the end of the cable opposite the drive A connector. Please refer to the diagram below:



2. Cable Connection

The 34-pin ribbon cable that connects the disk drive controller to the floppy disk drive(s) will have a red or blue stripe along one edge. This signifies pin 1. This cable attaches to an edge card connection on the drive(s). The edge connector should have a notch cut in it that signifies the side of the connector with pin 1. Please refer to the following diagram.



3. Power Cable Connection

If the system you are attaching the FD55GF to does not have a connector with which to get power (+5VDC and +12VDC) to the drive itself, you may need to purchase a power cable kit from Jameco Electronics, part # PCK-5. This kit only provides you with a means of going from an existing +5VDC and +12VDC power supply to a 5.25" disk drive. Power is not furnished by the PCK-5.

If you system does have power currently going to an existing 5.25" drive, but there are no more unused power connectors, you should use a power splitter cable from Jameco Electronics, part # PCY. This will enable you to disconnect the power cable that is in use and split it to two drives.

4. Mounting in a Full Height Drive Bay

If the FD55GF is being installed where normally a full height drive would go, you most likely will have a half height gap. This can be remedied by purchasing a half-height bezel from Jameco Electronics, part # BEZEL.

If the FD55GF is being installed as the second half-height drive in a bay designed for a single full height drive, you will need a dual drive mounting bracket, Jameco Electronics part # TMHD.

5. Mounting in a PC/AT or compatible

If the FD55GF is being installed in an IBM PC/AT or compatible, it may need to be mounted in a disk drive cage. This requires that rails be attached to the side of the drive. These are available from Jameco Electronics, part # ATRAIL.

6. Cleaning and Maintenance

It is recommended that a head cleaning diskette be used periodically as a preventive maintenance and to insure data integrity. Jameco Electronics part # DCK1 contains the necessary cleaning equipment and supplies.

TROUBLESHOOTING

1. Common Problems and Solutions

A. Drive door does not close.

The drive door will not close if there is no diskette in the drive nor if the diskette is not all the way in the drive. This is to protect your diskettes.

B. Two or more drives spin simultaneously.

Check the drive select jumpers. If you are on an IBM PC, PC/XT, PC/AT or compatible system, they should BOTH be set on the second position, DS1. On other systems, they are normally set for DS0 and DS1.

C. The drive does not operate properly.

Make sure the red or blue stripe on the control cable is on the same side of the edge card connector as the slot on the card edge.

Make sure power is connected to the drive correctly.

Make sure you are using a known good, formatted diskette.

Your system may require you to change switch settings or jumper settings within the computer. If you have an IBM PC;, switches 1, 7 and 8 on switch block 1 determine how many disk drives you have installed in the system. If you have an IBM PC/XT, there will only be one switch block. Switches 7 and 8 on this switch block determine how many drives you have installed. If you have an IBM PC/AT, you must run the SETUP program to let the computer know if you have added or deleted a drive and what type of drive it is.

2. Additional Technical Assistance

Many problems can be resolved by referencing the manual and confirming configuration and installation. If you have exhausted all other options and are still encountering difficulty, our Technical Support Staff are available between 7am and 5pm, Pacific Time, Monday through Friday. When you call, please have the equipment in question handy, along with the necessary customer and order numbers. If appropriate, please write down DIP switch settings or other configuration data. The technicians may need all of this information to fully assist you. The phone number is (415) 592-9990.

Discrepancies in shipment, returns, exchanges and refunds are handled by our Customer Service Department. They are also available between 7am and 5pm, Pacific Time, Monday through Friday. Their number is (415) 592-8121.

If you are located outside the United States, you may find it more convenient to contact us by either FAX or Telex, both available 24 hours a day. Inquiries should be marked to the attention of either Customer Service or Technical Support. Our FAX numbers are (415) 592-2503 and (415) 595-2664. Our Telex number is 176043, answerback: JAMECO BLMT.

If you run across any errors or omissions in this manual or the manual does not explain something thoroughly enough, please write to us and let us know. Feedback from our customers provides for consistently high quality now, and in the future. Please reference the document and revision numbers as well as the printing date (located on the cover of all Jameco manuals) when writing so that corrections can be made as easily as possible. Address correspondence to:

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