FD-103 APPLE® COMPATIBLE DISK DRIVE

USER'S INSTRUCTION MANUAL

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All information contained in this manual is subject to change without notice.
1. **FCC NOTICE**

This equipment generates and uses radio frequency energy. If it is not properly installed and used in strict accordance with the manufacturer’s instructions, this equipment may interfere with radio and television reception. This equipment has been tested and found to comply with the limits for a Class B computing device peripheral in accordance with the specifications in Subpart J of Part 15 FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. If you suspect interference, you can test this equipment by turning it off and on. If you determine that there is interference with radio or television reception, try one or more of the following measures to correct it:

1.1 Reorient the receiving antenna.
1.2 Move the computer away from the receiver.
1.3 Change the relative positions of the computer equipment and the receiver.
1.4 Plug the computer into a different outlet so that the computer and the receiver are on different branch circuits.

If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may also wish to consult the following booklet which was prepared by the Federal Communications Commission: “How to Identify and Resolve Radio – TV Interference Problems”. This booklet is available from the U.S. Government Printing Office, Washington, D.C. 20402, Stock No. 004-000-00345-4.
MODEL FD-103
5½" HALF-HEIGHT APPLE COMPATIBLE DISK DRIVE

Description
FD-103 is 5½" half-height disk drive that is compatible with the Apple II, Apple II+, Apple IIe, Apple IIc, Apple II GS and Laser 128. FD-103 may install with two kinds of cable. One is the standard 20 pins that terminates with female connector. It is plugged into a standard Apple Disk Drive controller card which is usually used in the Apple II, Apple II+ and the Apple IIe computer. Another is the 19 pins that terminates with male connector. It is usually plugged into the back of the Apple IIc and Laser 128 ‘DISK PORT’ or to daisy chain onto the rear panel of a 3.5" disk drive in the Apple II GS.

Installation Procedure For The Apple II, Apple II+ and the Apple IIe
1. Unpack the 5½" Disk Drive.
2. Turn off the computer.
3. Route the ribbon cable through the back panel of the computer.
4. See figure 1, plug the cable onto the controller card.
5. Install the controller card in slot 1-7 of the computer. Slot 6 is recommended. While the connector is plugged onto the ‘Drive 1’ location, this drive is assigned as slot 6 drive 1. While it is plugged onto the ‘Drive 2’ location, it is assigned as slot 6 drive 2.

Installation Procedure For The Apple IIc And Laser 128
1. Turn off the computer.
2. Connect the DB-19 male connector of the Disk Drive to the ‘Disk Port’ on the rear panel of the Apple IIc and Laser 128.
3. This drive is assigned as ‘Drive 2’ while internal 5½" disk drive is assigned as ‘Drive 1’.

Installation Procedure For The Apple II GS
1. You may use 20 pins female connector disk drive on disk controller card, the same installation procedure as above description.
2. You may also use DB-19 male connector Disk Drive that its connector is plugged onto the ‘Daisy-chain Port’ on the rear panel of the Apple 3.5" Disk Drive. This method calls ‘Daisy Chain’.

Note: If you use disk controller card that inserts in slot 6, you need to set the control panel of the Apple II GS, assign slot 6 as ‘Your Card’.
If you use the ‘Daisy Chain’ method, slot 6 must be set to ‘Disk Port’ while slot 5 must be set to ‘Smart Port’. Then the computer will recognize the 5½" Disk Drive as slot 6 drive 1, and the Apple 3.5" Disk Drive as slot 5 drive 1.

Replace The DB-19 Pins Male Connector Cable
1. Turn the Disk Drive upside down.
2. Remove the four screws from the bottom of the Disk Drive.
3. Slide the bottom cover back away from the front of the drive until it is clear of the Disk Drive.
4. Slide the top cover back until it is clear of the Disk Drive.
5. Place the Disk Drive upside.
6. Remove the three screws from the green circuit board. There is no need to remove any cable connection.
7. Remove the existing 20 pins ribbon cable from the bottom of the circuit board.
8. Plug the 20 pins female connector of the DB-19 pins cable onto the header at the bottom of the circuit board.
9. Be sure that the red/blue first wire of the ribbon cable must be located as figure 2 shown.
10. Re-tighten three screws onto the green circuit board and replace the drive covers, top cover first.
11. Replace the four screws securing the disk drive cover.

Indicator Lights: Red light indicates that the drive is in use. Green light indicates that the drive is writing or formatting a diskette.
Optional Parts:
Model no: FD-103P
Description: Built-in daisy-chain port for another drive to be plugged onto the back of this drive.* See figure 3. FD-103P is featured with 19 pins male connector cable.
Note: FD-103 doesn’t feature this port, it must be the last one in Apple II GS daisy chained configuration.

![Diagram](daisy-chain.png)

**FIGURE 3 DAISY CHAIN CONFIGURATION**

Remark: Laser 128 user may has a little problem in speed. They need to adjust the speed by using some softwares can read the drive’s speed. We recommend ‘Copy II+’. Boot up this software in the good drive and then tell the computer what drive is going to be tested. Insert a formatted diskette (under ProDos) into the drive to be adjusted. The correct range should be 198 to 202ms. When the drive is out of range, insert a small slot screwdriver into the bottom of the drive ‘Speed Adjust’ hole. Turn it clock-wise or counterclock-wise until meet the range. Better close to 200ms.
NOTE: THIS FLOPPY DISK DRIVE'S DOOR CAN'T BE CLOSED WITHOUT INSERTING A DISKETTE OR THIS CARD INTO THE DRIVE.

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Shipping: UPS ground: $8.00 per drive
except $10.00 per drive, for dual drive.
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NY Resident: Please add 8% sales tax.

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Floppy Disk Drive

We have designed and installed an integrated computerized O.C. test system which acts
like an engineer by inspecting and selecting drives for you. For more information,
contact us at the address below.

The FD-100 Series provides a full range of slim line floppy disk drives for your choice — from mechanism (M7) to
mechanism with printed circuit board (P1) and even to completed drive.

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Bankers: Singapore Bank Ltd.,
Hong Kong & Shanghai Banking Corp.,
Barclay National de Paris.

U.S.A.,
Tel: (212) 239-4840,
Fax: 750-1911 KW 511,

SPECIFICATIONS

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SPECIFICATIONS

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