SHARP

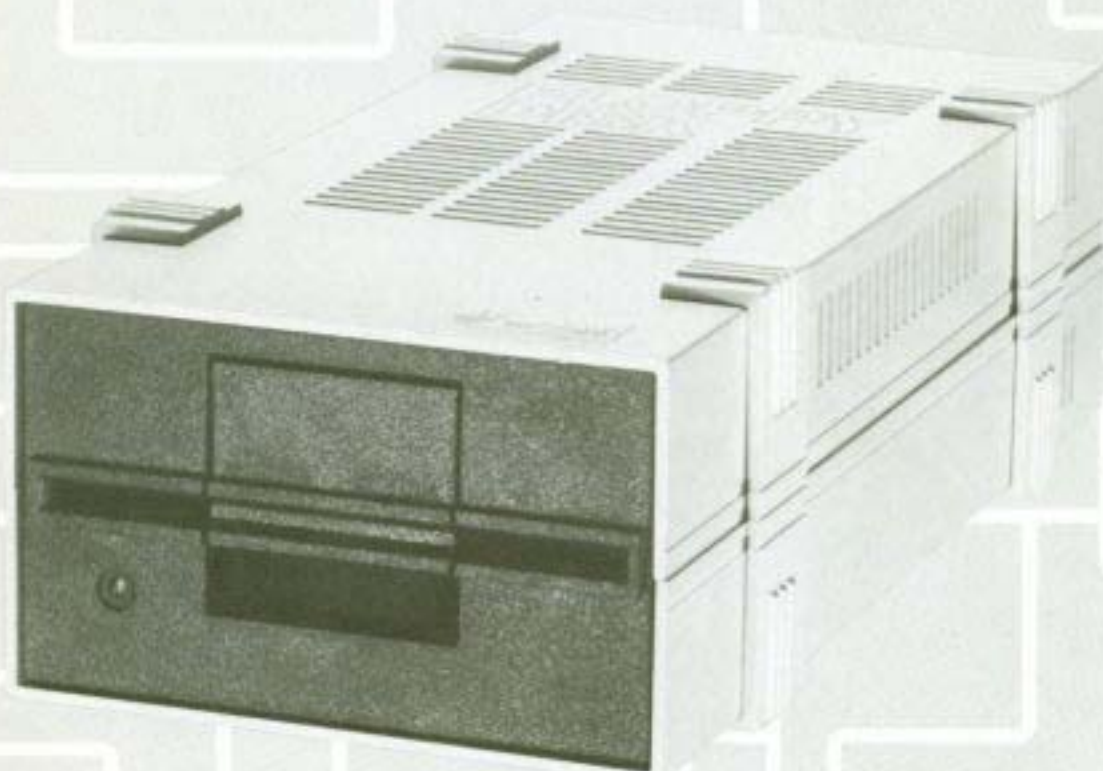## Floppy Disk

MZ-80SFD

INSTRUCTION MANUAL

Note for Users in UK
IMPORTANT

The wires in the mains lead of this apparatus are coloured in accordance with the following code:

BLUE:	**Neutral**
BROWN:	**Live**

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

* The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured BLACK.
* The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured RED.

INSTRUCTION

Thank you for purchasing the SHARP Floppy Disk MZ-80SFD. It is a peripheral unit for use with the SHARP Personal Computer which can operate a maximum of 4 drives. We believe that it will be very useful as an external memory unit because of its large capacity and high speed access.
Read this instruction manual carefully before using the Floppy Disk so you can use it correctly.

Contents

Precautions

■ **Terminal resistor**
Which drive must or must not be fitted with a terminal resistor is dependent on the combination or number of drives to be used. For prevention of troubles, every drive leaves our plant with any terminal resistor not attached. When mounting a terminal resistor, read the directions given later carefully and attach the resistor to a right drive. Improper attachment could cause damages to connected drives.

■ **Upgrading the drive system**
A maximum of four MZ-80SFDs can be used in daisy-chain connection or the MZ-80FB or MZ-80FBK— an extension drive unit for the MZ-80FB— can be used in conjunction with one or two MZ-80SFDs to upgrade the drive system. When upgrading the drive system, interconnect necessary drives in the specified manners shown later. Incorrect interconnection will destroy the drive signal circuit.

■ **Connection with the computer system**
When connecting any drives to the computer system, be sure to switch off the whole system in advance.

■ **Power supply**
Be sure to use a supply voltage that is shown on the rating plate attached to the back of the MZ-80SFD. The use of any other supply voltage causes damages to the drive. Also, never connect the MZ-80SFD to the same electrical outlet where some apparatus that generates a noise — a heavy-duty motor, etc. — is connected, otherwise the system could malfunction.

■ **Humidity and dust**
The MZ-80SFD, a precision engineered gadget, dislikes an excessive humidity. Avoid using this drive in a location that is subject to high humidity or exposed to much dust.
(Ambient humidity = 20 to 80%)

■ **Installation requirements and impact**
The MZ-80SFD is composed of precision engineered mechanisms and electronical components. Use it in a location that is not subject to an extreme high or low temperature, abrupt temperature changes, or heavy vibration or exposed to much dust. Never give any unreasonable impact to this device by putting something on it or dropping it by mistake. Also, never place it near a speaker, TV set, or tape recorder because these are generating magnetism. This will cause malfunction of the drive or delete data or texts stored in a diskette.
Never operate the MZ-80SFD slanted. This will impede correct writing or reading.
Also, place the signal cables of the system kept as far away as possible from the other associate devices and the power cords.

■ **Power cord**
Be careful not to place a desk or chair on the power cord or catch it in anything, otherwise the cord could be damaged. The use of a damaged power cord leads to hazard. When disconnecting the power cord, be sure to pull it off by holding the plug.

■ **When the MZ-80SFD is expected not to be operated over an extended period of time**
Be sure to disconnect the power cord from the electrical outlet.

■ **Stain**
If the machine is contaminated, gently wipe it with soft cloth soaked in water or cleaning fluid. Neither use any volatile chemicals such as benzine and thinner nor spread insecticide on the machine. This will result in discoloration of the cabinet.

Physical Characteristics

① **Front Door**

② **Diskette Loading Slot**

③ **Action Indicator**

④ **Drive Select Switch**
   This switch serves to identify the drive by drive number setting.

⑤ **FG (Frame Ground) Terminal**
   This terminal is used to interconnect two drives through a braided wire.

⑥ **Signal Terminal**
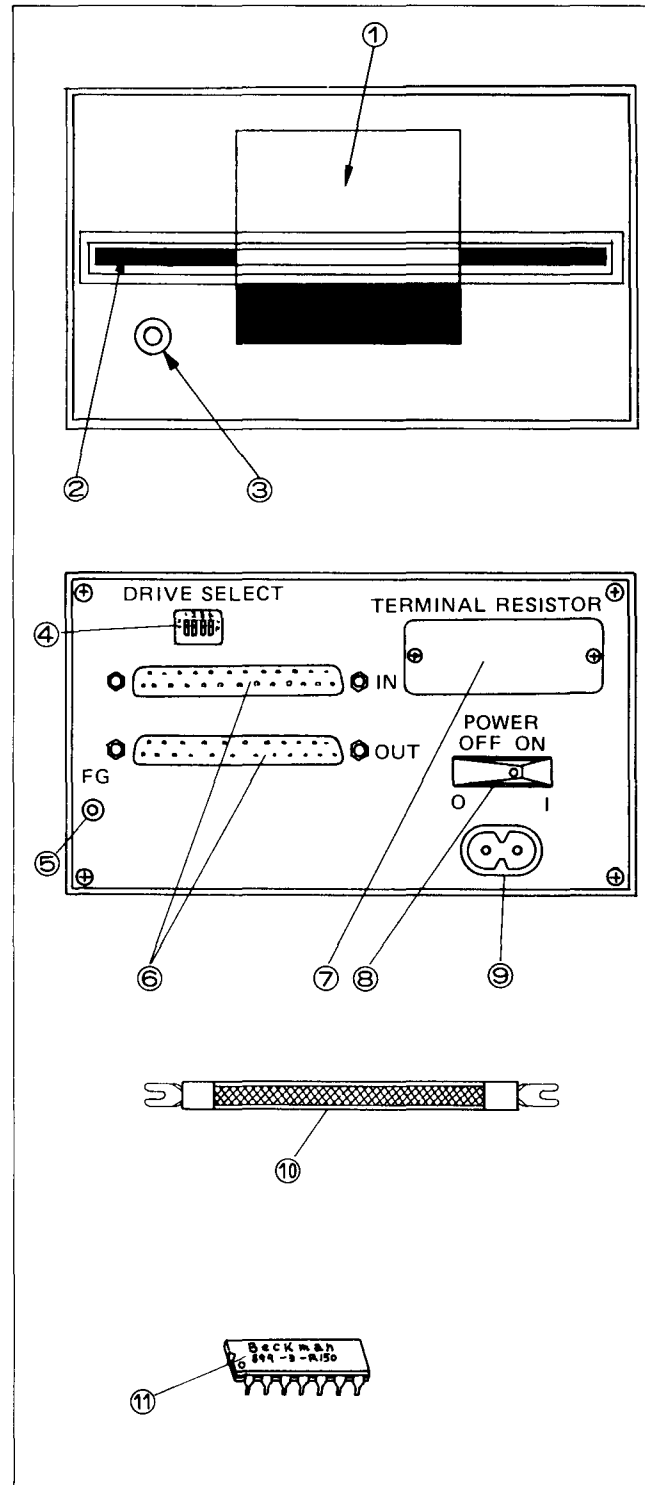   The signal cable connector is connected to this terminal.

⑦ **Panel**
   Remove the panel. Then you will find there a socket to connect a terminal resistor to.

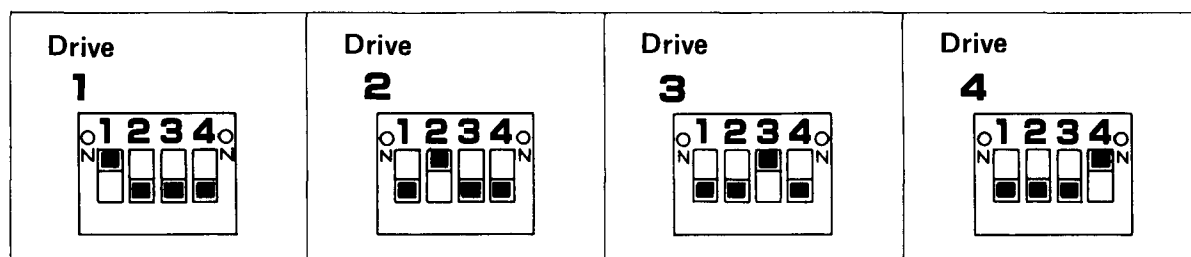⑧ **Power Switch**

⑨ **Power Connector**

⑩ **Braided Wire**

⑪ **Terminal Resistor**

Identification of Disk Drives and Terminal Resistor

- **Identification of disk drives**

  A maximum of four disk drives can connect to the computer system, and every connected disk drive requires drive number setting. This setting can be achieved by the 4-gang switch labelled "DRIVE SELECT" which is present on the back of each drive. Set only the switch corresponding to a desired drive number to ON as shown below. Use care then to prevent the same drive number from being assigned to two or more drives in a drive system, otherwise the drive system would malfunction.
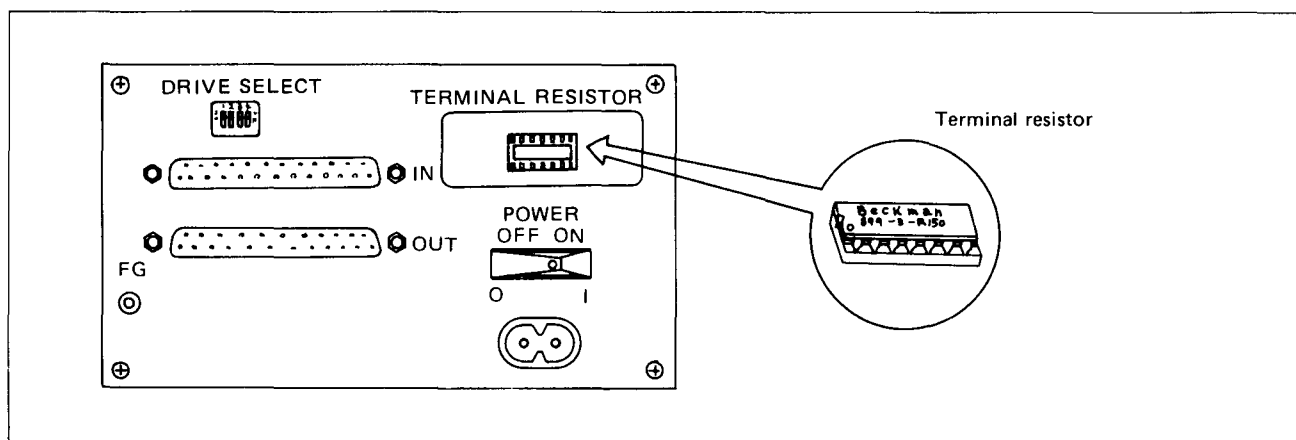

Setting of the drive select switch

- **Terminal resistor**

  The drive system requires to have one of its component drives provided with a terminal resistor. It must be noted, however, that which drive should be provided with a terminal resistor depends upon the number of connected drives. In principle, the drive remotest from the interface alone needs a terminal resistor. If the drive system contains two or more drives with a terminal resistor, those drives get damaged when the system is put in operation. Pay due attention to this regard. When attaching a terminal resistor, follow the procedure given below.

  (1) Unscrew the panel under the indication "TERMINAL RESISTOR" which is secured with two screws. You will find a socket then.

  (2) Mount a supplied terminal resistor on the socket. This resistor, having no polarity, can be mounted in any orientation.

  (3) Make sure the resistor has correctly been mounted, then replace and screw the panel.

Mounting of the terminal resistor

Signal Cable Connection

(1) **Signal cable**

The signal cable to interconnect individual drives and the one to interconnect a drive and the interface card are different in length.

(a) Interconnection of drives (or their terminals "IN" and "OUT")
    For this purpose use signal cable MZ-80FCK (option).

(b) Interconnection of a drive and the interface card (or the terminal "IN" of the drive and the terminal of the card)
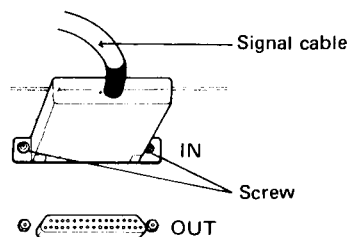   For this purpose use signal cable MZ-80FC (option).

The overall length of the cables used between the interface card and the drive with a terminal resistor is limited to 3 meters or less. If the length is longer than 3 meters, the drive system may malfunction.
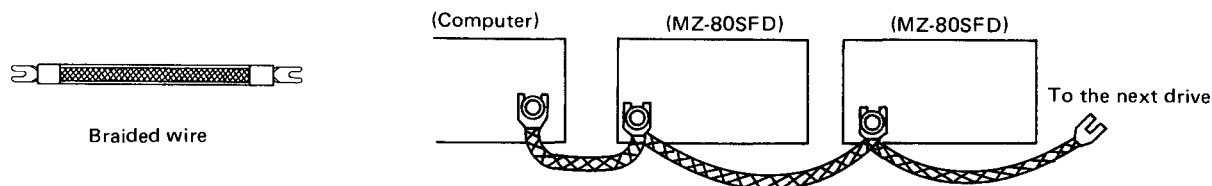
(2) **Signal cable connection**

Connect a signal cable connector to the terminal "IN" or "OUT" on the back of each drive or to the interface card terminal, then secure both ends of the connector with two pieces of supplied screws.
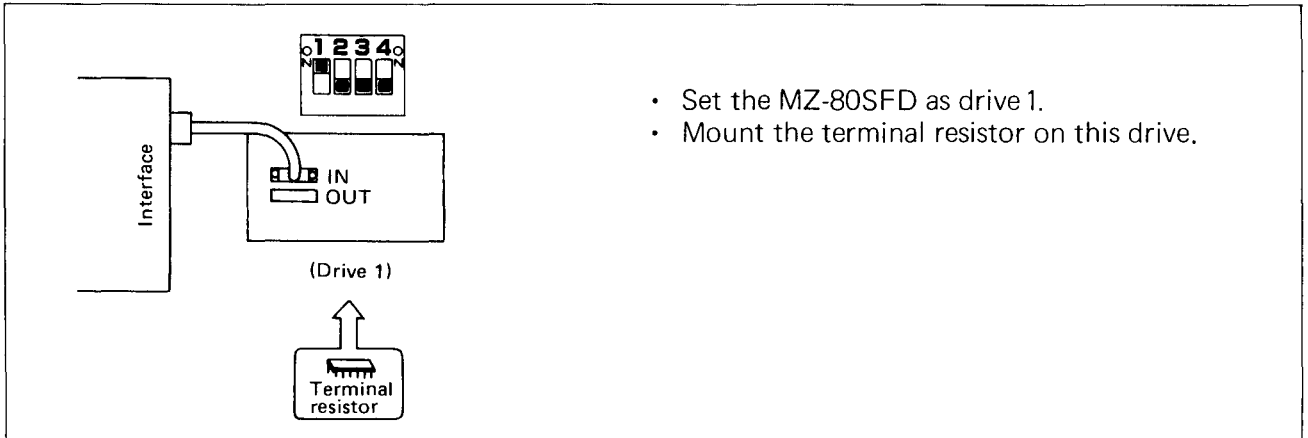
Back view of the drive

(Note) Screw likewise the signal cable connector on the interface card.

[Note] A braided wire comes with the MZ-80SFD. Use this wire to connect the FG terminal of one drive to that of another or to the FG terminal of the computer. The purpose of this practice is to reduce noises the computer system produces.
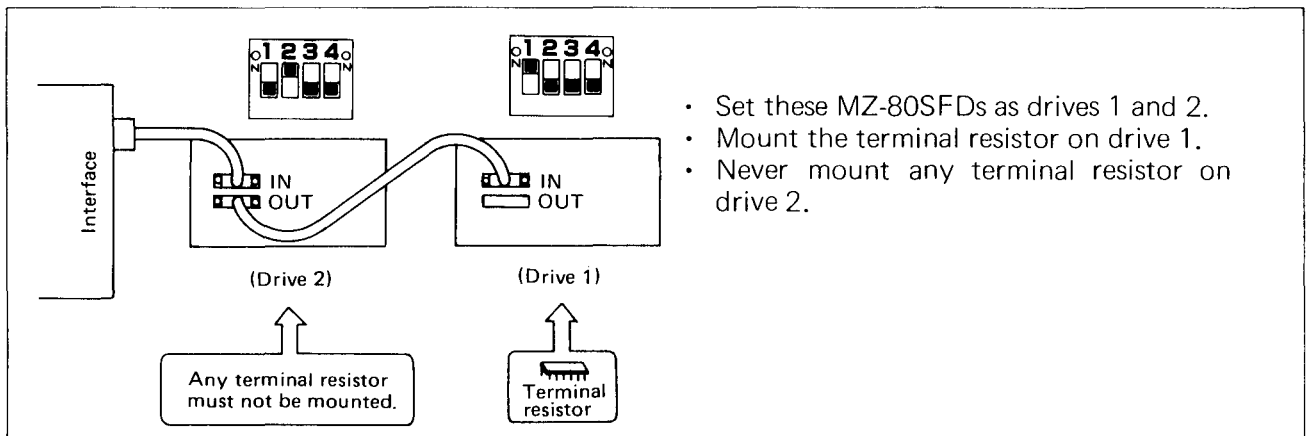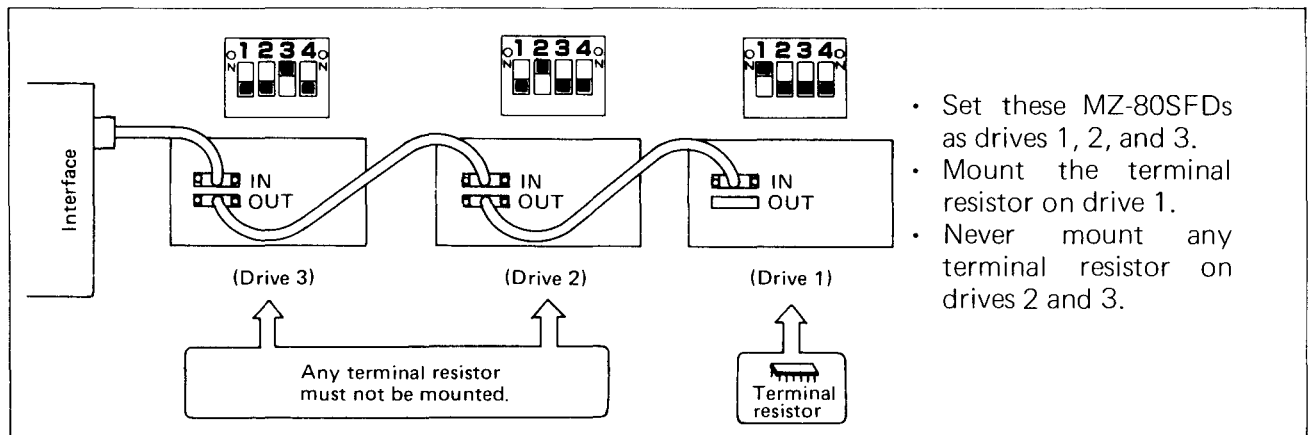
Connection of Drives

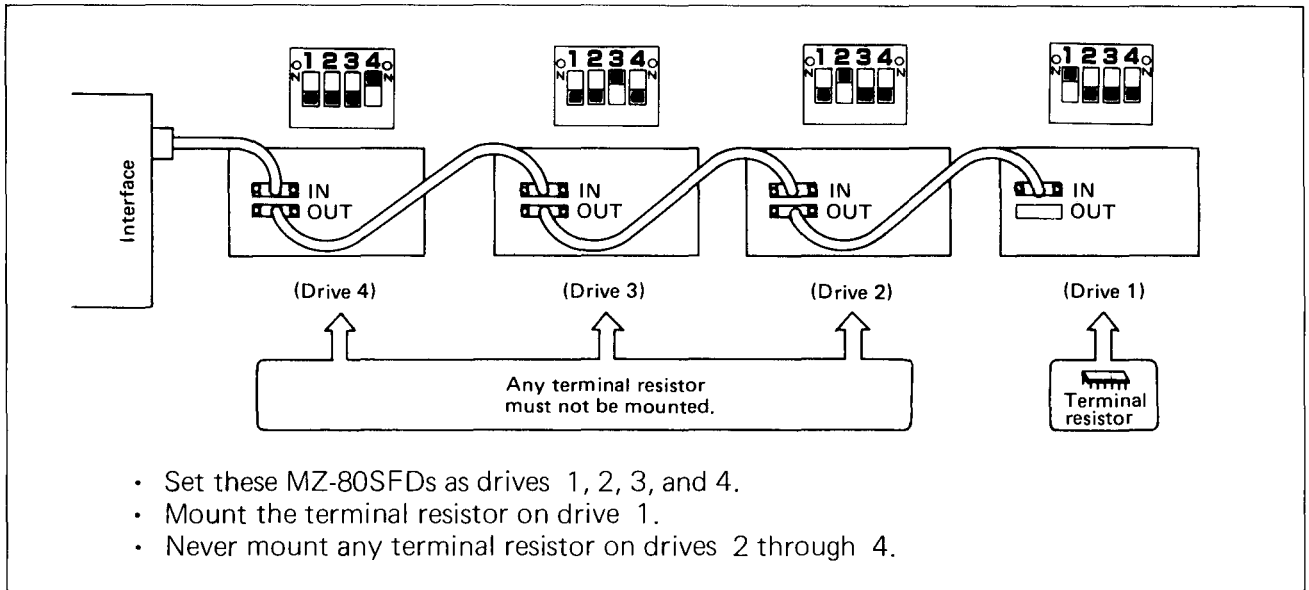**(1) When a single MZ-80SFD is used:**

- Set the MZ-80SFD as drive 1.
- Mount the terminal resistor on this drive.

(Drive 1)

Terminal resistor

(2) When two MZ-80SFDs are used:

- Set these MZ-80SFDs as drives 1 and 2.
- Mount the terminal resistor on drive 1.
- Never mount any terminal resistor on drive 2.

(Drive 2)   (Drive 1)

Any terminal resistor must not be mounted.

Terminal resistor

(3) When three MZ-80SFDs are used:

- Set these MZ-80SFDs as drives 1, 2, and 3.
- Mount the terminal resistor on drive 1.
- Never mount any terminal resistor on drives 2 and 3.

(Drive 3)   (Drive 2)   (Drive 1)

Any terminal resistor must not be mounted.

Terminal resistor

(4) When four MZ-80SFDs are used:

- Set these MZ-80SFDs as drives 1, 2, 3, and 4.
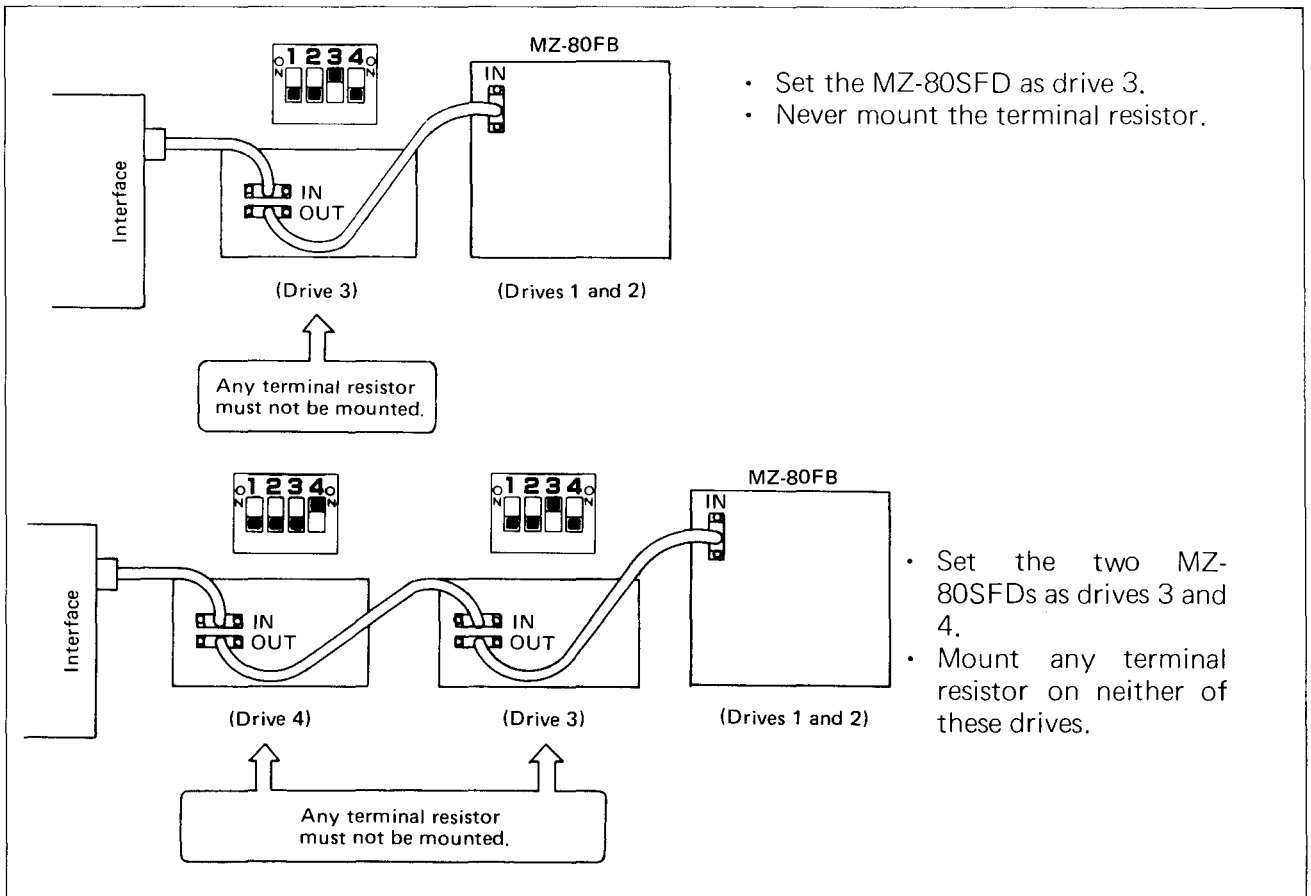- Mount the terminal resistor on drive 1.
- Never mount any terminal resistor on drives 2 through 4.

(5) When one or two MZ-80SFDs are used in conjunction with the MZ-80FB floppy-disk drive unit:

The MZ-80FB (option) has two drives which have been set as drives 1 and 2; and it has been already provided with a terminal resistor.
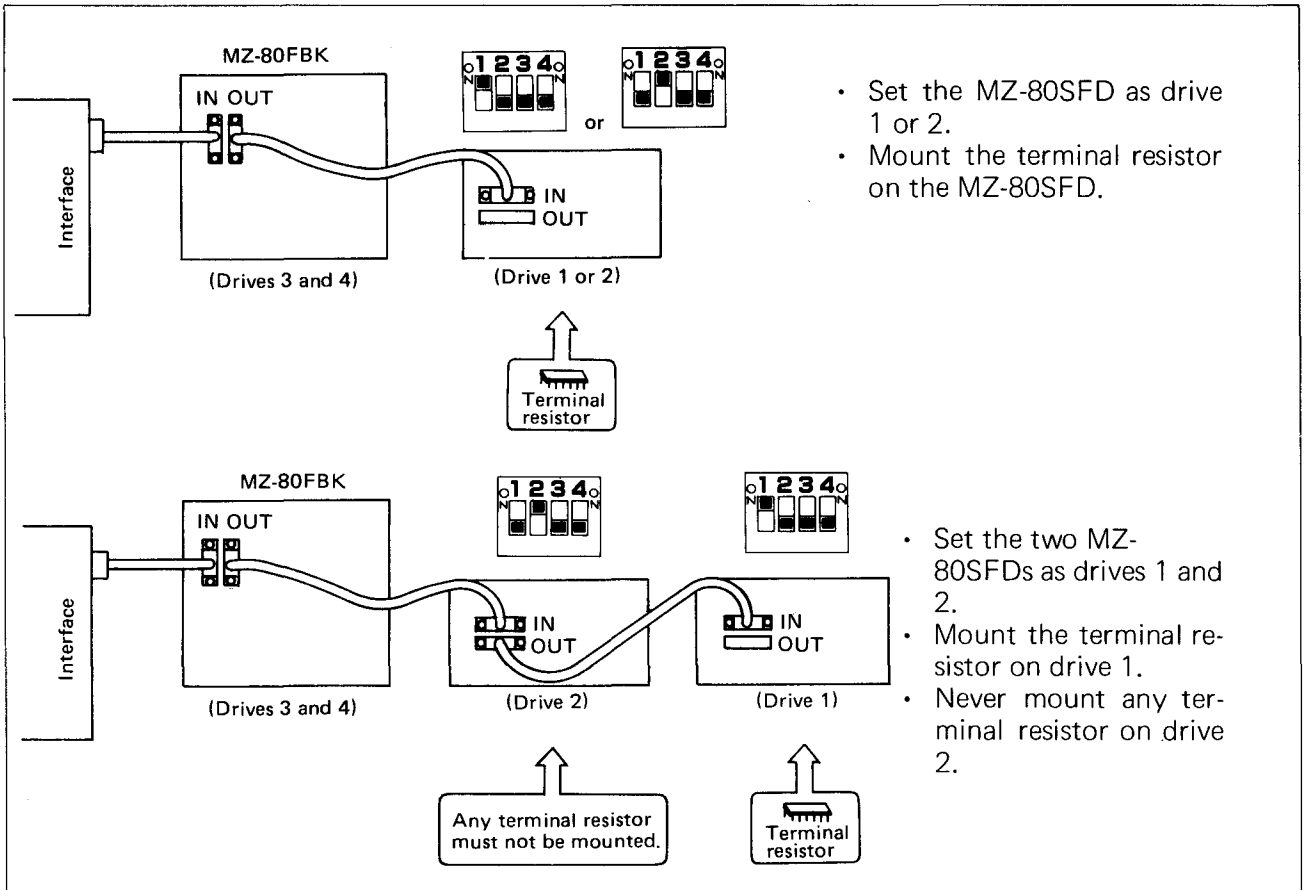
Therefore, when upgrading the drive system, a maximum of two MZ-80SFDs can be used in conjunction with the MZ-80FB. At this time no terminal resistor must be mounted on any MZ-80SFD.
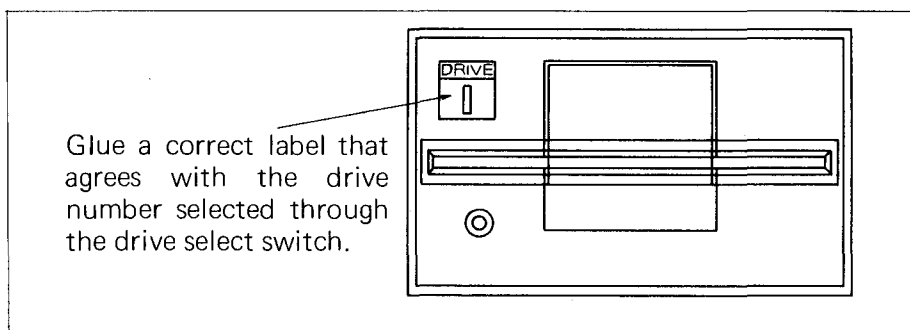

- Set the MZ-80SFD as drive 3.
- Never mount the terminal resistor.

- Set the two MZ-80SFDs as drives 3 and 4.
- Mount any terminal resistor on neither of these drives.

(6) When one or two MZ-80SFDs are used in conjunction with the MZ-80FBK floppy-disk drive unit:

The MZ-80FBK (option) has two drives which have been set as drives 3 and 4; and it has not been fitted with any terminal resistor.
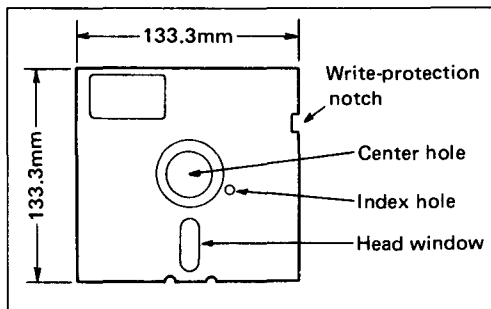
Therefore, when upgrading the drive system, a maximum of two MZ-80SFDs can be used in conjunction with the MZ-80FBK. At this time the MZ-80SFD must be fitted with a terminal resistor.

• Set the MZ-80SFD as drive 1 or 2.
• Mount the terminal resistor on the MZ-80SFD.

• Set the two MZ-80SFDs as drives 1 and 2.
• Mount the terminal resistor on drive 1.
• Never mount any terminal resistor on drive 2.

[Note]   Four drive number labels, which bear numbers 1 through 4, respectively, come with the MZ-80SFD. Glue on its front a correct label that corresponds to the drive number setting through the drive select switch. See the figure below.
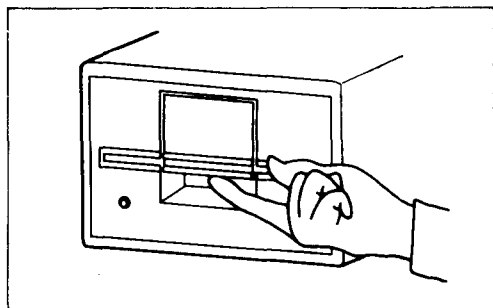

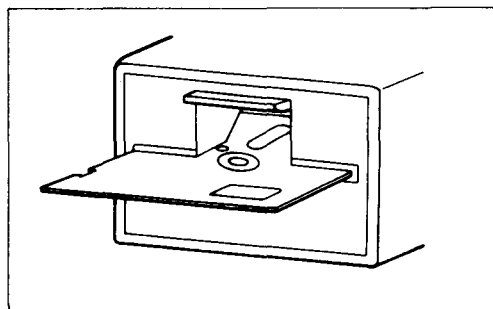Glue a correct label that agrees with the drive number selected through the drive select switch.

1 Diskette

This unit uses a 5.25" mini-disk that records on both sides as the recording medium. Its external appearance is as shown on the left. It's called a diskette and is a magnetic sheet covered by a jacket.
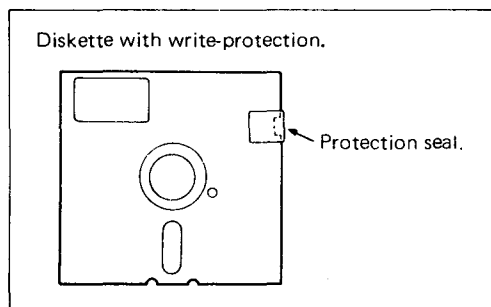

2 Inserting a Diskette

1. Put a finger on the bottom of the front door and lightly put this door toward you to open it.

2. With the label side up and the head window forward, insert a diskette in the slot. There is no other way to insert a diskette correctly.
3. Push the diskette lightly until it stops and close the front door. If the diskette is not inserted all the way, the front door will not close. When this happens do not force the door closed but re-insert the diskette correctly.

Diskette with write-protection.
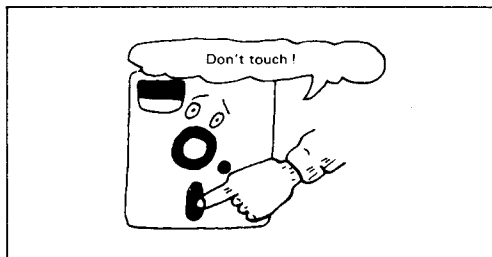
3 Write-protection Notch

If the write-protection notch of the diskette is covered with a seal of silver paper, etc., writing of data is forbidden. Reading, however, is possible. Some diskettes supplied by Sharp that are called Masters have this part covered with a seal. Never remove it because it prevents trouble from improper operation.

Do not cover the notch of a diskette that is ordinarily used for read/write operations with a seal, etc. or writing will be impossible.
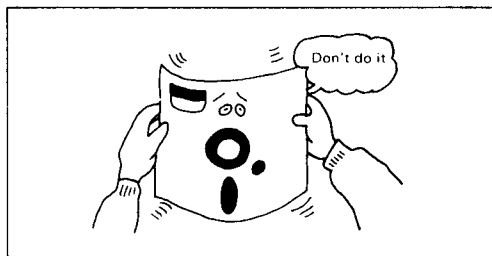
4 Data Read/Write

Operation of this unit is only by ON/OFF of the power and insertion/removal of a diskette. All reading and writing of data is controlled by the host computer. For details refer to the software manual. A maximum of 4 drives can be operated and drives are designated by the drive numbers on the front of the unit.
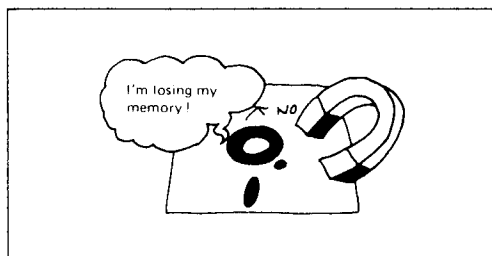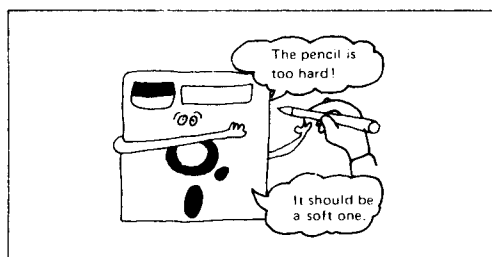
Handling the Diskette

Do not touch, soil or scratch the recording surface (Head Window) of the diskette with your finger. This may cause improper operation or result in no operation.
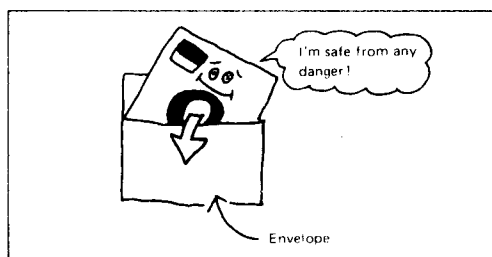
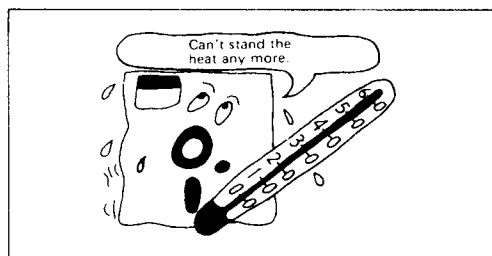Do not bend or fold the diskette or it will become unusable.

Do not bring magnetic things near the diskette or the contents of the diskette will be destroyed. In addition, it's dangerous to bring a diskette near machines (motors, etc.) that generate a magnetic field.

Fill in the index label before pasting it on the jacket or use a soft pointed pen. If you use a ball-point pen or other hard object on a label already pasted on the jacket, the diskette will be damaged.

When not using a diskette, put it in an envelope and file it away. This also prevents trouble caused by scratches and dust.

Storage temperatures for the diskette are 4°C to 53°C. Do not leave the diskette exposed to direct sunlight, or locate it in a place subject to the temperatures exceeding 53°C. This may cause the jacket to be deformed and unusable.
When using the diskette, ensure that the temperature range described on the protective envelope is observed. Environmental conditions may differ between the storage and operation places. This requires the diskette to be placed under the proper operating environment for a while before use.

Specifications

Drive-to-drive connection:	Daisy-chain system (a maximum of four drives)
Recording medium:	5.25-inch both-sides flexible disk
Recording:	Double or single density
Number of tracks:	70 tracks
Sector:	Soft sectored
Formatted capacity:	280K bytes/drive at 16 sectors/track (double density)
	140K bytes/drive at 16 sectors/track (single density)
Power supply:	As shown on the rating plate (This plate bears a voltage value "AC 220V," "AC 240V," or others: Be sure to confirm it carefully.)
Power Consumption:	30W
Operating conditions:	5 to 25°C in temperature
	20 to 80% in humidity (free of moisture condensation)
External dimensions:	Approx. 165(W) x 102(H) x 323(D) mm
Weight:	4 kg

*Specifications and design subject to change without prior notice for product improvement . In such cases, items mentioned above may be partially different from the product.

*This apparatus complies with requirements of EEC directive 76/889/EEC.

SHARP CORPORATION