

SHARP

MZ DISK DRIVE

MODEL **MZ-1F11**

INSTRUCTION MANUAL



INTRODUCTION

Thank you for buying the MZ-1F11 SHARP MZ Disk Drive. This disk drive is for the SHARP personal computer and provides considerable external storage of programs and data. Before using the MZ disk drive, please read this manual carefully to ensure correct operation.

The contents of this manual are subject to change without notice.
If the product is defective, please contact the store where you bought it.

SHARP is not responsible for damage incurred during, or as a result of, operation.

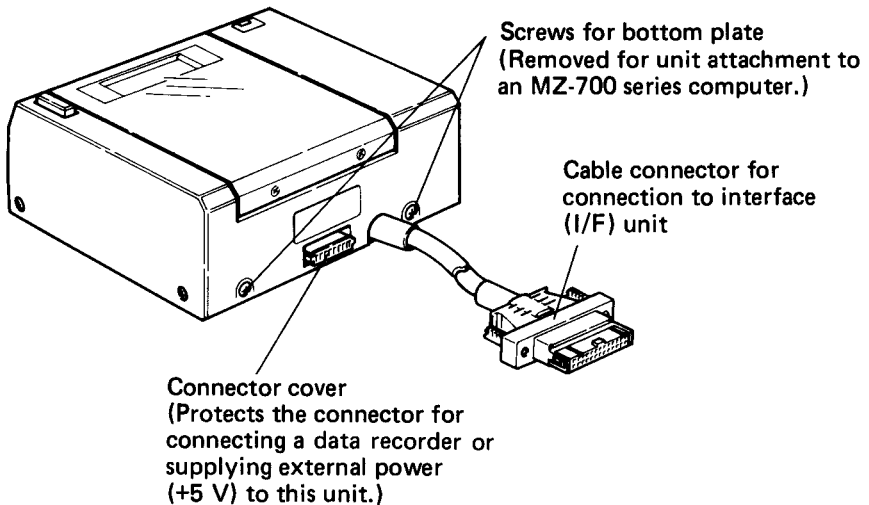
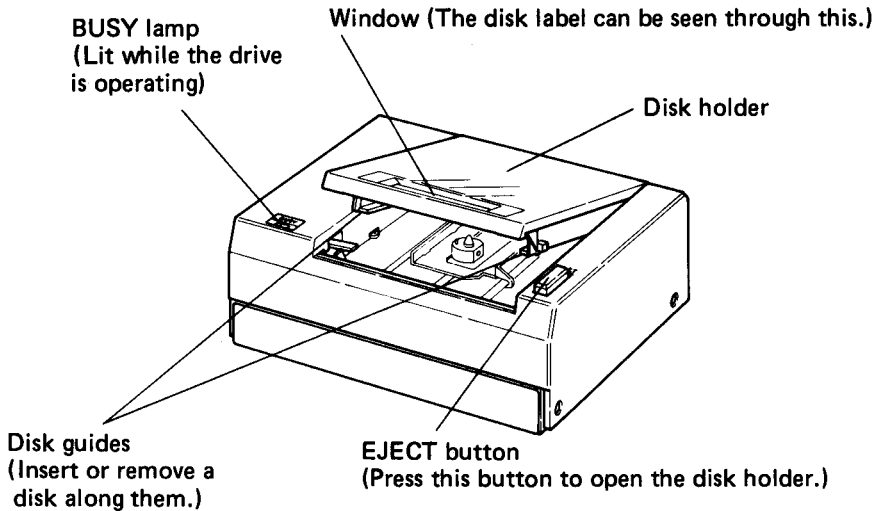
CAUTION

- 1) Do not use this unit where rapid increases or decreases in temperature occur or in humid or dusty environment. This unit consists of precision parts, such as LSI circuits, that can be affected by the operating environment. Do not expose the unit to direct sunlight.
- 2) Do not bump or drop this unit, or turn it upside down.
- 3) Use this device horizontally on a stable, strong support.
- 4) To prevent electrical noise (RF interference), keep this unit away from all devices that are likely to generate such.
- 5) Do not open or push the disk holder during operation (while the BUSY lamp is on).
- 6) Be sure to insert the disk along the disk guides for correct insertion. (See page 4. Inserting a disk into the drive.)
- 7) Clean the head periodically. (See page 6.)
- 8) Do not operate this unit continuously more than fifty times. If you do, a malfunction may occur. (Avoid this by programming.)
- 9) Do not put anything on top of this unit, not even a cloth.
- 10) Clean the unit with a dry, soft cloth. Do not use volatile liquids (alcohol, benzene, thinner, etc.) or a wet cloth.
- 11) If MZ disk errors occur frequently, clean the head. If errors continue, contact the store where you bought the unit.

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PARTS OF THE DISK DRIVE

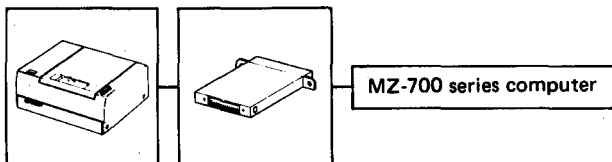


CONNECTING THE MZ-1F11 TO A COMPUTER

The MZ-1F11 disk drive can be connected to an MZ-700 series and MZ-800 personal computer as follows:

MZ disk drive
MZ-1F11

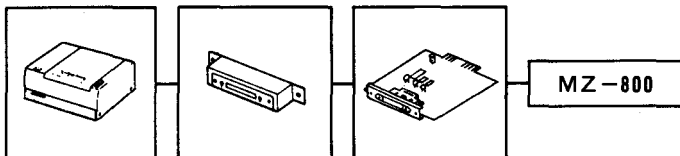
MZ disk I/F unit
MZ-1E14



MZ disk drive
MZ-1F11

Slot cover
(MZ-1X17)

Interface
MZ-1E19

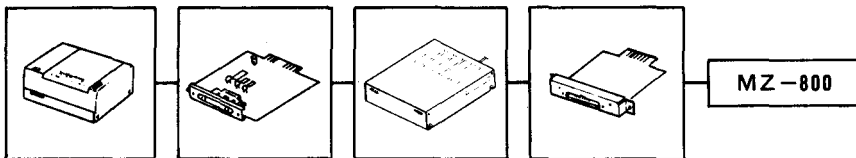


MZ disk drive
MZ-1F11

Interface
MZ-1E19

Expansion unit
MZ-1U06

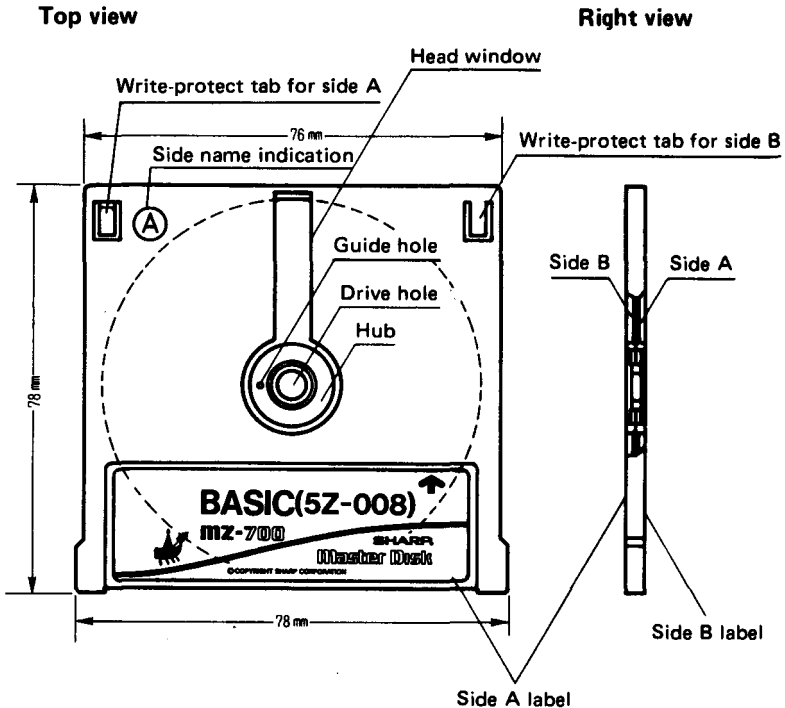
Expansion board
MZ-1E20



MZ DISK

(1) Disk

This drive uses 2.8-inch double-sided MZ disks. A disk is a flexible magnetic sheet that stores programs and data. It is permanently contained in a stiff jacket. The magnetic sheet is viewed through the head window. The next figure shows a standard disk.



Drive hole

When the disk is mounted in the disk drive, the rotary spindle of the drive fits snugly into this hole. The drive's guide pin fits into the guide hole and helps turn the disk.

Head window

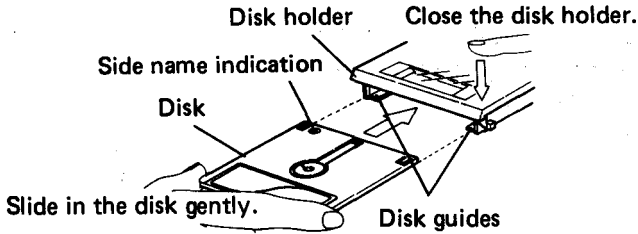
The magnetic head of the disk drive reads and writes data to the disk, touching it through this window.

Note:

Do not touch the magnetic material — be sure to handle the disk only by its jacket.

(2) Inserting the disk into the disk drive

Read the notes on the instruction sheet in a packing case.



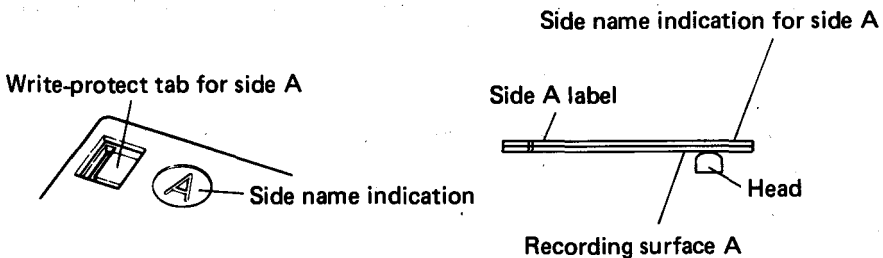
- 1) Press the EJECT button to open the disk holder.
- 2) Insert the disk along the disk guides with the head window at the front. (Hold the disk by the edge of its jacket.) Data can be read or written on side A or side B. Check the side to be used — it is indicated on the jacket.
- 3) Push the disk in lightly until it stops, then close the disk holder. Be sure to insert the disk along the disk guides. Never close the disk holder unless the disk is fully inserted.

(3) Write-protect tab

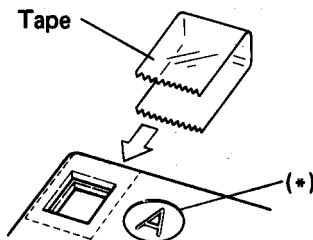
This tab is removed to prevent data on the disk from being deleted accidentally. When this tab is removed, no data can be saved to the disk, although data can be read.

Some master disks are supplied by SHARP with their tabs already removed. Sides A and B have one write protection tab each, so each side can be write protected independently.

The write-protect tab is on the right side of the side of the disk it protects (as shown in the figure on page 3).



If you have to write to a disk that has been write-protected, just cover the hole for the side whose tab has been removed. You can use cellophane tape to cover the hole.



Note: There may be a different shape of the side name indication. (*)

(4) Data read/write

The only operation the user can perform on this unit is removing and inserting disks. All data operations are controlled by the computer. Refer to the manual for the software in use.

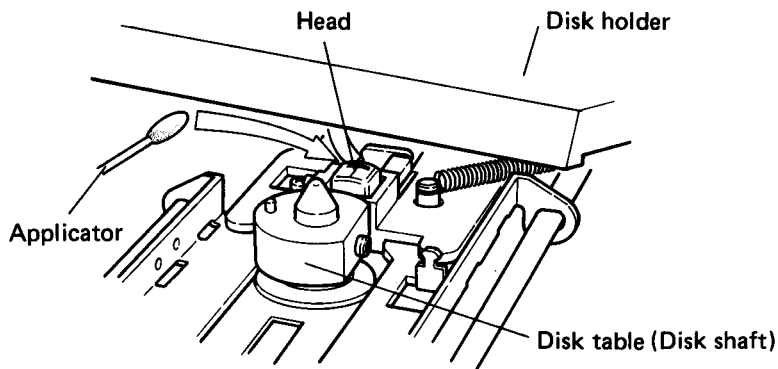
DISK PROTECTION

1. Follow the instructions on the protective envelope of the disk.
 2. When disks are not in use, store them vertically in their envelopes in a disk storage box. Do not lean disks against anything. This will bend them.
 3. Do not bend or fold disks. A bent or folded disk is useless.
 4. Information should be written on a label before it is attached to a disk. When information must be written on a label already attached to a disk, use a soft-tipped pen (felt making pen, etc.) Do not use a pencil or ball-point pen — you can ruin your disk this way.
 5. Do not place disks near magnetic materials. This may destroy programs and data on the disk.
-

HOW TO CLEAN THE DISK HEAD

You must clean the disk head regularly — determine the interval of cleaning based on the degree of oxide buildup on the head. Using a dirty head will cause disk errors and much frustration.

- 1) Open the disk holder by pressing the EJECT button.
- 2) Notice the head at the back of the disk table.
- 3) Wipe the head surface with an applicator moistened with head-cleaning liquid. (Perform this procedure in the similar way as cleaning a tape recorder head.)



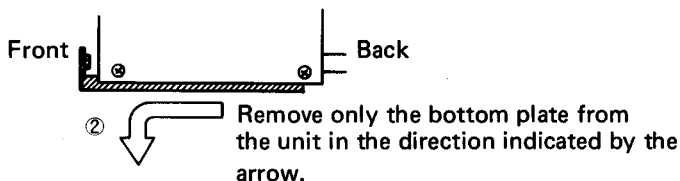
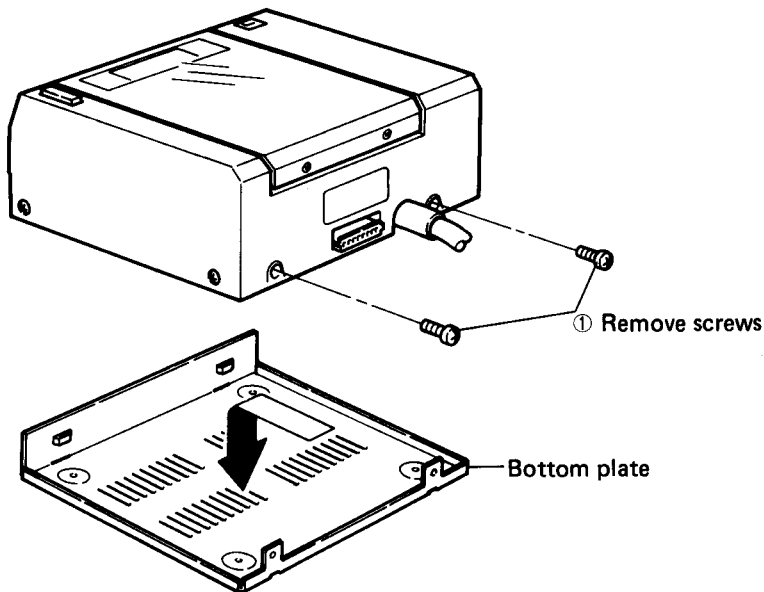
Note:

1. Use only the specified applicator to clean the head.
2. Purchase head cleaning liquid and applicators at an electrical store. (Use a new applicator for each cleaning — use several if the first one becomes dirty.)
3. Cotton swabs available at any drugstore may be used as applicators.

REMOVING THE BOTTOM PLATE

This disk drive can be mounted on an MZ-700 series or MZ-800 personal computer. Here is an explanation of removing the bottom plate (required for connection).

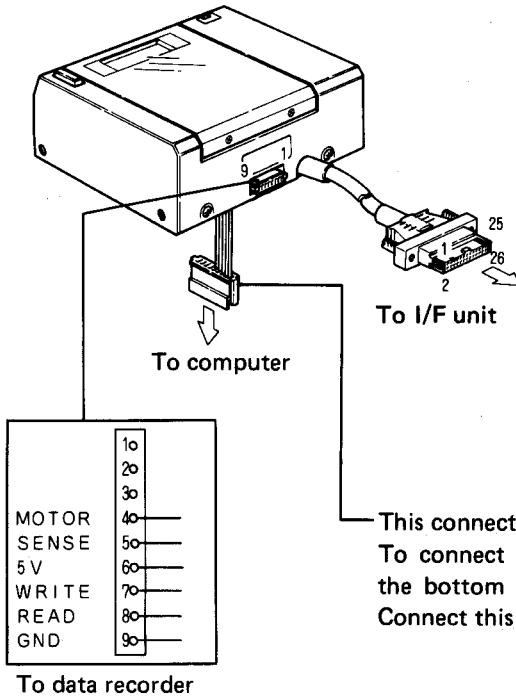
- 1) Unscrew the screws at the back of the unit.
- 2) Remove the bottom plate in the direction indicated by the arrow.



Note:

Removing the bottom plate exposes cables for connection to an MZ-700 series or MZ-800 computer.

PINOUT OF CONNECTORS



| COMPONENT | | PATTERN SIDE | |
|-----------|--------|--------------|------|
| 25 | +5V | 26 | GND |
| 23 | S1 | 24 | CE |
| 21 | RESET | 22 | S0 |
| 19 | ϕ | 20 | RD |
| 17 | M1 | 18 | IORQ |
| 15 | D7 | 16 | GND |
| 13 | D6 | 14 | GND |
| 11 | D5 | 12 | GND |
| 9 | D4 | 10 | GND |
| 7 | D3 | 8 | GND |
| 5 | D2 | 6 | GND |
| 3 | D1 | 4 | GND |
| 1 | D0 | 2 | GND |

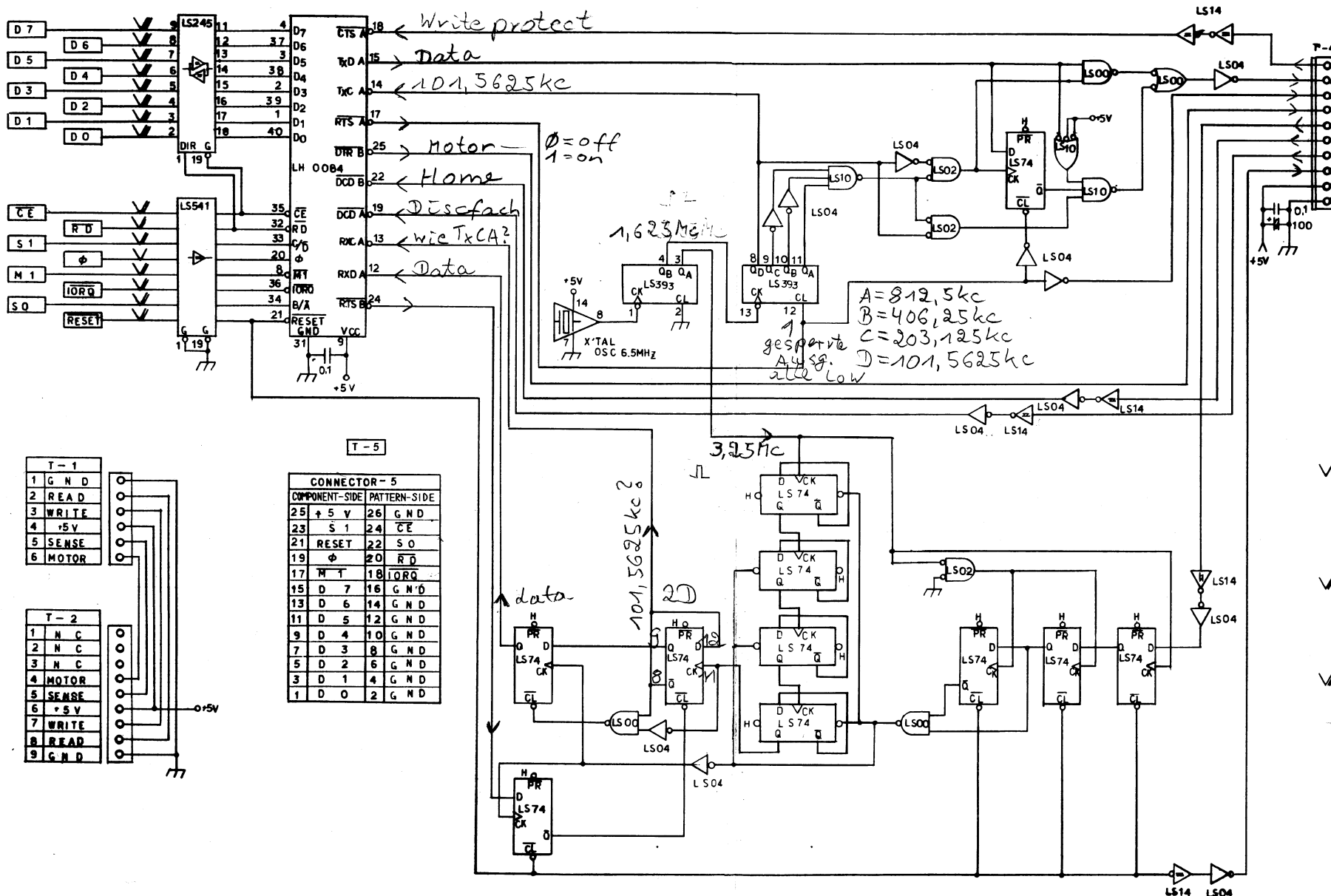
This connector is inside the housing of this unit. To connect this unit to the computer, remove the bottom plate and pull out the connector. Connect this connector to the computer.

SPECIFICATIONS

| | |
|-----------------------|--|
| Model | : MZ-1F11 |
| Storage capacity | : 64K bytes for each of sides A and B (formatted) |
| Number of tracks | : 1 spiral track |
| Recording medium | : 2.8-inch disk (MZ blank disk MZ-6F03) (*) |
| Life time | : 2,000 paths |
| Operating power | : +5 VDC \pm 5%/300 mA (average) |
| Power consumption | : 1.5 W (average) (During motor lock failure: 5 W maximum) |
| Operating temperature | : 10°C – 35°C |
| Operating humidity | : 20% – 80% (no condensation) |
| Dimensions | : 151 mm (width) x 128 mm (depth) x 61 mm (height) |
| Weight | : 1.2 kg |
| Accessories | : Instruction manual Applicator |

(*): It is recommended that you buy blank disks at the store where you bought your computer.

CIRCUIT DIAGRAM



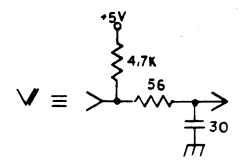
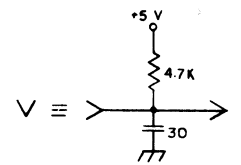
| T-4 | |
|-----|-------|
| 1 | WRPF |
| 2 | WRDT |
| 3 | WRGA |
| 4 | MTON |
| 5 | RDDT |
| 6 | HOMF |
| 7 | MDST |
| 8 | RESET |
| 9 | +5V |
| 10 | GND |

MDST = DISC vorhanden (Schalter!)

| T-1 | |
|-----|-------|
| 1 | GND |
| 2 | READ |
| 3 | WRITE |
| 4 | +5V |
| 5 | SENSE |
| 6 | MOTOR |

| T-2 | |
|-----|-------|
| 1 | NC |
| 2 | NC |
| 3 | NC |
| 4 | MOTOR |
| 5 | SENSE |
| 6 | +5V |
| 7 | WRITE |
| 8 | READ |
| 9 | GND |

| CONNECTOR - 5 | | | |
|----------------|--------------|----------------|--------------|
| COMPONENT-SIDE | PATTERN-SIDE | COMPONENT-SIDE | PATTERN-SIDE |
| 25 | +5V | 26 | GND |
| 23 | S1 | 24 | CE |
| 21 | RESET | 22 | S0 |
| 19 | φ | 20 | RD |
| 17 | MT | 18 | IORQ |
| 15 | D7 | 16 | GND |
| 13 | D6 | 14 | GND |
| 11 | D5 | 12 | GND |
| 9 | D4 | 10 | GND |
| 7 | D3 | 8 | GND |
| 5 | D2 | 6 | GND |
| 3 | D1 | 4 | GND |
| 1 | D0 | 2 | GND |



3 Pull ups!

00 NAND
02 NOR
04 Inv.
10 NAND
14 Inv SchmittTr.

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CAUTION:

DISK INSERTION

1. REMOVE THE PROTECTIVE SHEET INSERTED PRIOR TO SHIPPING BEFORE INSERTING THE FLOPPY DISK. PULL THE RIGHT SIDE OF THE CARRIAGE FORWARD AS SHOWN IN FIG.1 TO REMOVE THE PROTECTIVE SHEET.

NOTE: DO NOT TOUCH THE DISK SHAFT.

2. INSERT THE DISK ALL THE WAY IN ALONG THE DISK GUIDE AS SHOWN IN FIG. 2, AND THEN CLOSE THE DISK HOLDER.

NOTE: DO NOT INSERT THE DISK UNDER THE DISK GUIDES NOR CLOSE THE DISK HOLDER BEFORE THE DISK IS FULLY INSERTED.

VORSICHT:

EINSETZEN DER DISKETTE

1. VOR DEM EINSETZEN DER DISKETTE DAS SCHUTZBLATT, DAS ZUR TRANSPORTSICHERUNG DIENT, ENTFERNEN. DIE RECHTE SEITE DES SCHLITTENS WIE IN ABB. 1 GEZEIGT NACH VORNE ZIEHEN, UM DAS SCHUTZBLATT ZU ENTFERNEN.

ZUR BEACHTUNG: DIE DISKETTENACHSE NICHT BERÜHREN.

2. DIE DISKETTE BIS ZUM ANSCHLAG ENTLANG DER DISKETTENFÜHRUNG WIE IN ABB. 2 GEZEIGT EINFÜHREN. DANN DEN DISKETTENHALTER SCHLIEßEN.

ZUR BEACHTUNG: DIE DISKETTE NICHT UNTER DIE DISKETTENFÜHRUNG EINSETZEN UND DEN DISKETTENHALTER NICHT SCHLIEßEN, BEVOR DIE DISKETTE GANZ EINGESETZT IST.

ATTENTION:

MISE EN PLACE DU DISQUE SOUPLE

1. RETIRER LA FEUILLE DE PROTECTION D'ORIGINE AVANT DE METTRE LE DISQUE SOUPLE EN PLACE. TIRER LE CÔTÉ DROIT DU CHARIOT VERS L'AVANT (FIG. 1) POUR RETIRER LA FEUILLE DE PROTECTION.

NOTE: NE PAS TOUCHER L'AXE D'INSERTION DU DISQUE.

2. PRÉSENTER LE DISQUE SOUPLE DEVANT LES GUIDES (FIG. 2), L'INTRODUIRE ENTIÈREMENT, ET FERMER LE PORTE-DISQUE.

NOTE: NE PAS INTRODUIRE LE DISQUE SOUPLE EN DEHORS DES GUIDES, NI FERMER LE PORTE-DISQUE AVANT QUE LE DISQUE NE SOIT ENTIÈREMENT INTRODUIT.

ATTENZIONE:

INSERIMENTO DEL DISCHETTO

1. PRIMA DI INSERIRE IL DISCHETTO, DALLA TOGLIERE LA PROTEZIONE INSERITA DALLA FABBRICA. PER TOGLIERLA, TIRARE IN AVANTI LA PARTE DESTRA DEL CARRELLO COME ILLUSTRATO IN FIGURA 1.

NOTA: NON TOCCARE L'ALBERO DEL DISCHETTO.

2. INSERIRE IL DISCHETTO LUNGO LE GUIDE, COME ILLUSTRATO IN FIGURA 2, E CHIUDERE IL PORTADISCHETTO.

NOTA: NON INSERIRE IL DISCHETTO SOTTO LE GUIDE E NON CHIUDERE IL PORTADISCHETTO PRIMA CHE IL DISCHETTO SIA INSERITO COMPLETAMENTE.

FIG.1
ABB.1

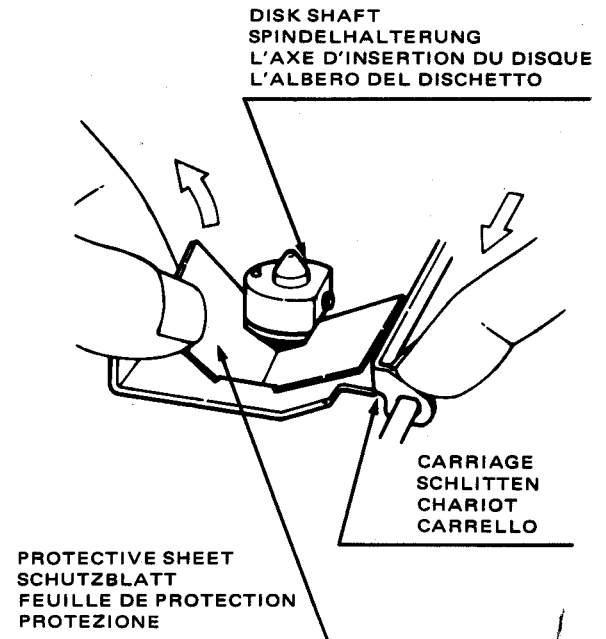


FIG.2
ABB.2

