AVT
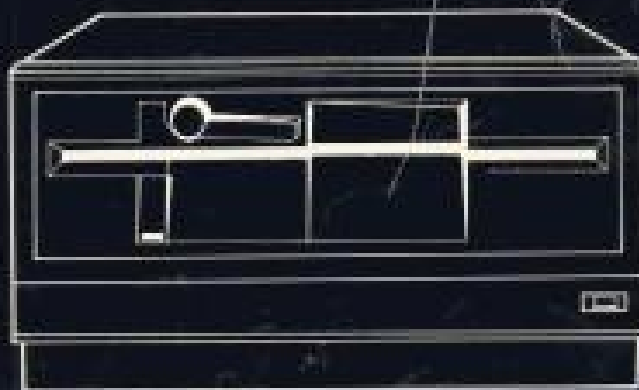
FLOPPY DISK DRIVE
(DPF-550)

FLOPPY DISK DRIVE (DPF-550) MANUAL

PREFACE

This operation manual is intended to be used as a reference guide whenever you wish to set-up, add to, or understand more about your FDD (DPF-550). This manual consist of the following three parts ;

PART I.   OPERATION MANUAL
PART II. MSX-DOS
PART III. MSX DISK-BASIC

PART I   : OPERATION MANUAL is a description of how to use your FDD (DPF-550).

PART II   : MSX-DOS is a description of the commands of MSX-DOS and its environment to help you use your diskette file effectively.

PART III   : MSX DISK-BASIC is a description of the function and the format of the commands of DISK-BASIC.
              It is on the basis of MSX ROM-BASIC.
              For further descriptions in relation to DISK-BASIC, you should refer to the MSX-BASIC manual.

CONTENTS

PART III. MSX DISK-BASIC

Syntax Notation in Reference Sections

Wherever the format for a statement/command or a function is given, the following rules apply:

CAPS Items in capital letters must be input as shown.

< > Items in lowercase letters enclosed in angle brackets (< >) are to be supplied by the user.

[ ] Items in square brackets ([ ]) are optional.

... Items followed by an ellipsis (...) may be repeated any number of times (up to the length of the line).

{ } Braces indicate that the user has a choice between two or more entries. At least one of the entries enclosed in braces must be chosen unless the entries are also enclosed in square brackets.

| Vertical bars separate the choices within braces. At least one of the entries separated by bars must be chosen unless the entries are also enclosed in square brackets.

All punctuations except angle brackets and square brackets (i.e., commas, parentheses, semicolons, hyphens, equal signs) must be included where shown.

Arguments to functions are always enclosed in parentheses. In the formats given for the functions in this book, the arguments are abbreviated as follows:

X and Y Represent any numeric expressions.

I and J Represent integer expressions.

X$ and Y$ Represent string expressions.

PART I.
OPERATION MANUAL

Before you start to use this equipment you should read this reference manual to fully understand and utilize it's outstanding features.

This reference manual explains the proper usage of the mini-floppy disk driver that can be connected to the MSX computer of our company and also a few points of caution in it's usage.

INTRODUCTION TO DPF-550

DPF-550 is a secondary memory device developed to support the MSX-computer capable of connecting two slim-type mini floppy disk drives at a time. The DPF-550 can also be connected to any other MSX personal computer and does not need any supplementary software for use of the MSX DISK-BASIC.

MSX-DOS is used with the 64KB model and because of it's data compatability with the IBM PC, files may be used commonly moving among diskettes. MSX-DOS is also function compatible with the CP /M, which means that you can utilize existing software of the CP/M.

Data memory capacity is 250KB (unformatted) for each disk drive and 500KB when two drives are connected. When formatted the memory capacity is 180KB for each drive and 360KB with two drives. It also has more than two times the memory capacity compared to the earlier single side single density method.

PARTS OF DPF-550

2.1. Names and Functions of each part

2.1.1 Front Side

FRONT LEVER
INUSE LAMP
POWER LAMP
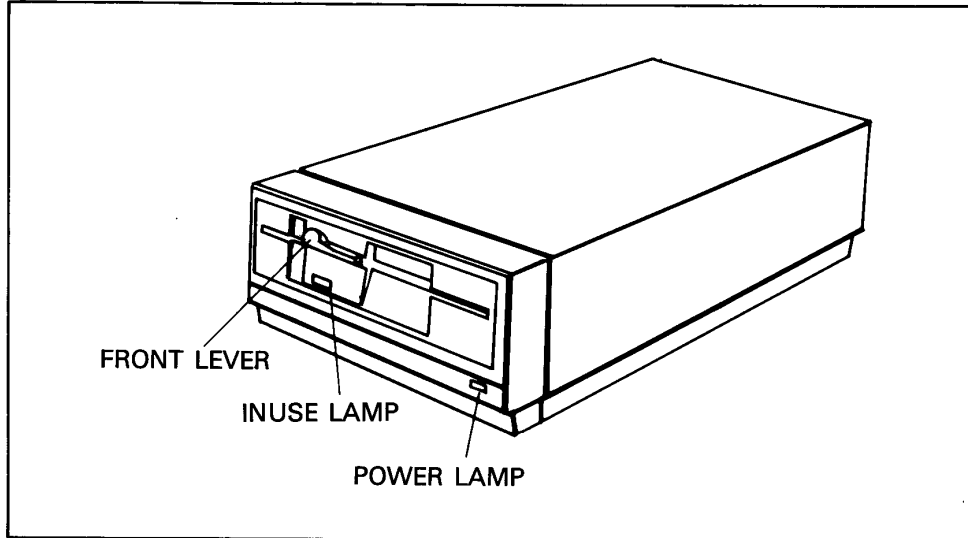
(1) Power Switch and Power Lamp

When the switch is 'ON', power is being supplied and when so, the red power lamp turns on.

When the switch is turned to 'OFF', the power is disconnected and the power lamp is turned off.

(2) Front Lever

When first packed, there is a disk-like paper slipped into the disk drive to protect the disk head. This disk-like paper is not actually usable, but keep it somewhere safe and use it to protect the disk head in case of transport.

When a diskette is slipped in, the front lever must be turned to the right to fix the diskette. To take the diskette out, turn the lever to the left and pull the diskette out.
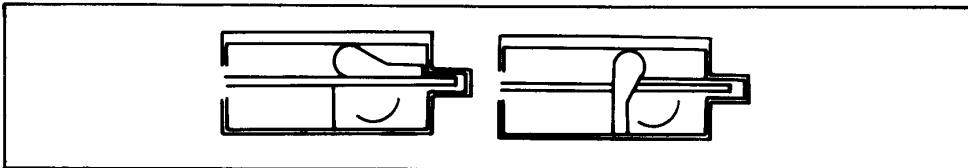
(3) Drive In use Lamp

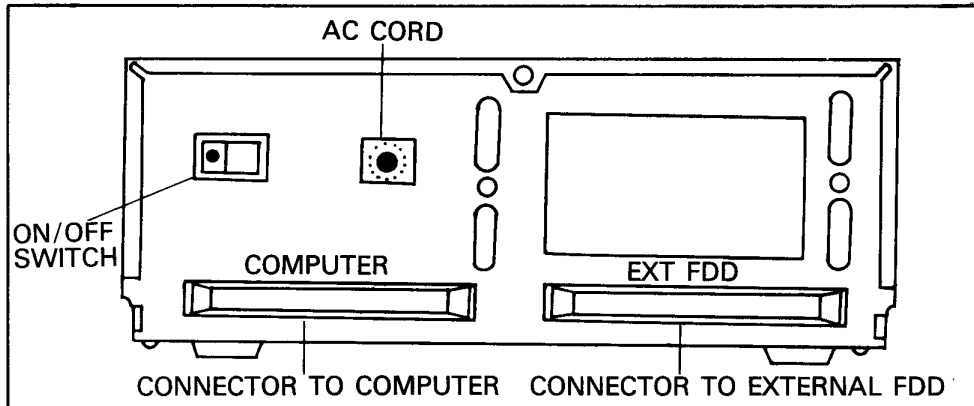When one disk drive is used, the computer assumes that only the A-DISK is present and in case of two drives it assumes that both A-DISK and B-DISK are present. The drive connected to the computer is the A-DISK and the other drive is the B-DISK. When the software selects one of the drives, the lamp of the drive is turned on.

2.1.2 Rear Side

Connector to the External FDD

This is the part where you connect the connecting apparatus which was packed with the disk drive. The connection is possible in only one direction, so if it doesn't connect easily, do not try to jam it in but check if it is in the right direction.

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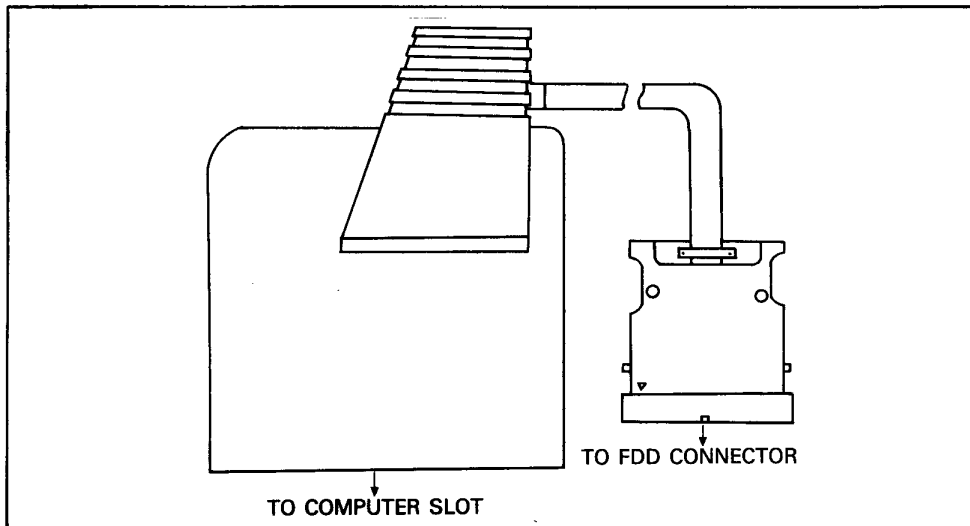
(1) Connector to the Computer

This connector is to be connected to the upper slot in the compu-
ter. Connect it with the interface device placed correctly.

(2) Connector to the Disk

This connector is to be connected to the connector in the disk
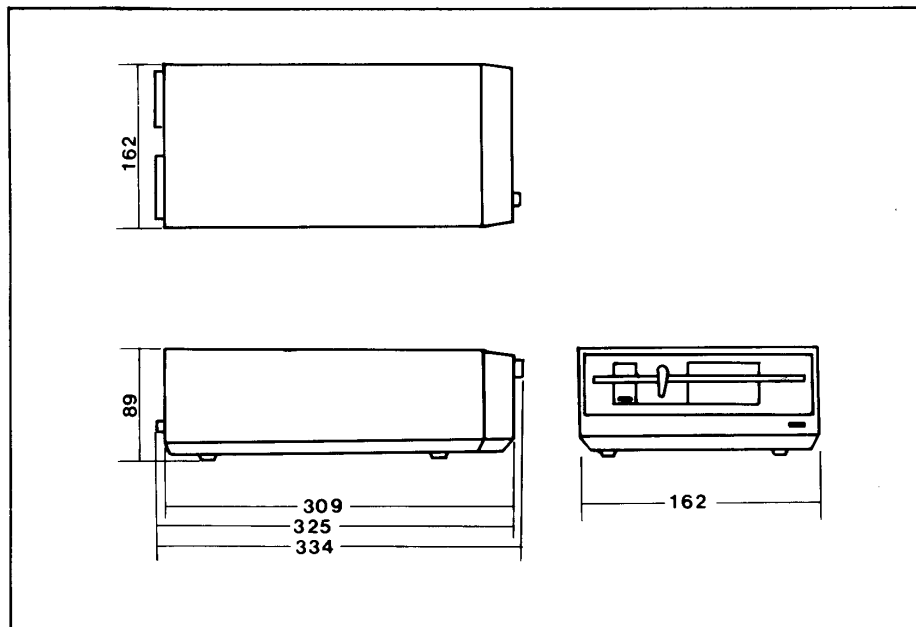device. The connection is possible in only one direction. Do not use
excessive force.

(3) Interface

This part holds the electric circuit. Handle with care.

2.2 Outer Measurements

2.3 Specifications

2.3.1 Memory capacity and Disk Drive Characteristics (for 1 drive)

Unformatted capacity	250KB
Formatted capacity	180KB
Number of tracks	40 tracks
Number of sectors (per track)	9 track
Sector size	512 bytes
Track access time	1 2 ms
Average access time	350 ms
Settling time	1 5 ms
DATA transfer rates	250KB/sec

2.3.2 Power Source

Input power	AC 220V ± 10%, 50Hz
Power consumption	20W (MAX.)

2.3.3 Usage Environmental Conditions

State	Environment Temperature	Relative Humidity
In use	10 ~ 30°C	20 ~ 80%
During transport	−40 ~ 60°C	5 ~ 95%
When safe-keeping	−20 ~ 40°C	5 ~ 95%

2.3.4 Precautions

(1) When switch is turned OFF, wait at least 10 seconds before turning it on again.

(2) Always use specified power supply.

(3) Install where ventilation is easy and at least 10 cm away from the wall.

(4) When in transport, be sure to put in the head protect paper.

(5) Dirt or cigarrette smoke may damage head and diskette surface, so keep the surrounding clean.

(6) Do not put heavy objects on the device.

(7) Keep chemical substance and water (moist) away from the device.

(8) When cleaning the case do not let water leak into the device.
Do not use volatile detergents when cleaning

(9) Keep magnetic objects away.

SETTING UP THE DPF-550

(1) Confirm the equipment

Unpack and check if the following are all there.

a) Disk device   b) Interface apparatus
c) Reference manual (this manual)   d) DISK–BASIC manual

(2) Prepatory equipment

The following is necessary for a test connection.

a) MSX computer   b) Monitor or TV set
c) Experimental diskette (Single side Double density)
d) Power source (AC)

(3) Main frame connection

Connect the main frame (computer) and TV set (monitor).
On how to connect, refer to the computer manual.

(4) Get disk unit ready

Place the disk unit 10 to 30 cm to the right of the MSX–computer.
Turn the front lever to the left and pull the head protect paper out.

(5) Connection with the MSX–computer

Plug the interface to the slot in the upper-front portion of the
MSX–computer.

(6) Confirm the connection

Check if the connections are correct. Caution must be taken for
wrong connections are the reasons of defects.

(7) Connect the AC power cable

Connect the AC power source.

(8) Second confirmation

Check again if the steps (1) through (7) have been correctly carried
out.

(9) Insert diskette

Slip the experimental diskette into the drive and turn the front lever
to the right (Refer to the diskette user manual of chapter 4).

(10) Power switch ON

When turning the switch on be sure to turn the disk unit on before the main frame. That is, turning on of the switches should be done in the following sequences.

a) Disk–Monitor–MSX Computer

b) Monitor–Disk–MSX Computer

(11) DOS or DISK-BASIC

When DOS is available in the diskette, the MSX-DOS operates, in the other case the DISK-BASIC is operated.

HOW TO USE THE DPF-550

4.1   Diskettes

Since the disk drive is double density the diskette must also be of double density. This means that a diskette marked "2D" must be used. The diskette size is of standard 5.25 inches. The use of single density diskettes may not give good results, so use of standard diskettes is recommended.

A diskette has a side with a label on it and a side that doesn't. The direction in which the diskette is slipped into the drive is as the diagram below; the side with the label facing upwards.

WRITE PROTECT   NOTCH   LABEL
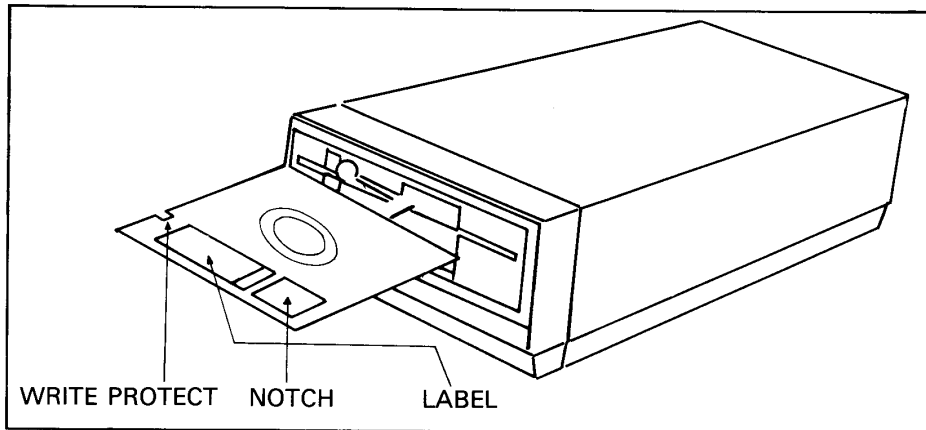
To read but protect the diskette from being written on, simply cover the Write Protect Notch.

4.2 Logical name of the disk drive

In DISK-BASIC or MSX-DOS the disk drive is given a logical name. When two drives are available the drive connected to the computer is "A:" and the other drive is "B:".

To store the present content of the memory, say ABC, to "B": drive in DISK-BASIC, we simply give a

'SAVE "B:ABC" ' command.

Likewise, in MSX-DOS, to see the file names in the A drive, we simply give a

'DIR A:' command.

4.3 Format

When the DOS diskette is not available, only the MSX DISK-BASIC may be operated. To mount anything on the diskette, the diskette must be initialized through FORMAT command.

The command in DISK-BASIC is CALL FORMAT (or_FORMAT). At this command the MSX asks which drive to initialize. Inputting A or B selects either drive. A message to confirm the input is sent out and by striking any key the FORMAT is carried out.

The initialization process erases all contents already in the diskette, so use with caution. In MSX-DOS the command is just FORMAT instead of CALL FORMAT.

4.4 Other commands

For further information on commands refer to the MSX DISK-BASIC and MSX-DOS commands.

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OPTIONS

5.1 MSX-DOS

Since the DISK-BASIC is stored in the disk unit, supplementary software is unnecessary for MSX DISK-BASIC. But to use the MSX-DOS, a MSX-DOS diskette is necessary. Using the MSX-DOS, the functions of MSX computer can be greatly enlarged by obtaining several different languages and special software packages.

5.2 MSX-DOS Software

High level languages supported by the MSX-DOS are FORTRAN, COBOL, etc. of the Microsoft company. MSX-DOS also supports useful utility packages of MULTIPLAN and Macro Assembler, Linker, Sort and other utilities.

5.3 Clock

A clock option may be serviced in the disk unit. In need of this service, the disk device must be brought to our agency or distributor for hardware modifications. Given the starting time and date, the clock option has the advantage of having a clock and printing the date on the disk file. This is especially useful when files are produced in great quantities.

SHORT CHECK OF OPERATION

Defect	Check Point	Solution
1. The drive does not work.	1. Check if the power lamp is on.	1. Plug the cord. 2. Turn the power switch on. 3. Supply power.
	2. Is the drive motor running?	1. Connect the cables correctly. 2. Check if the computer is normal.
2. READ and WRITE error.	1. Is the diskette in the right direction. 2. Is the diskette in the right position. 3. Is the front lever fixed. 4. Has the diskette been damaged.	1. Put it in the right direction. 1. Take it out and put it in the right position. 1. Turn the lever to the right to fix it. 1. Use a new diskette.
3. WRITE error	1. Is the write protect notch closed.	1. Open the notch.

** For malfunctions other than the above, contact your agency or distributor for After Service repair.