

***DATA-1000***

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***User Manual***

# **DATA-1000**

*User Manual*



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**FEDERAL COMMUNICATIONS COMMISSION  
RADIO FREQUENCY INTERFERENCE STATEMENT**

**Warning:** This equipment has been certified to comply with the limits for a Class B computing device, pursuant to Subpart J of Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

**Warning:** A shielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to near by radio and television reception. It is essential that only the attached power cord be used.

**The interference potential of the device**

(simple measures that can be taken by the user to correct interface)

This equipment generates and uses radio frequency energy and if not installed and used properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or TV reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient the receiving antenna
- Relocate the computer with respect to the receiver
- Move the computer away from the receiver
- Plug the computer into a different outlet so that the computer and the receiver are on different branch circuits

If necessary, the user should consult the dealer or an experienced radio/TV technician for additional suggestions. The user may find the following booklet prepared by the FCC helpful:

*How to Identify and Resolve Radio-TV Interference Problems*

This booklet is available from the U.S. Government Printing Office, Washington DC 20402, Stock No.004-000-00345-4

This digital apparatus does not exceed the class B limits for radio noise emissions from digital apparatus as set out in the radio interference regulations of the Canadian Department of Communication.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de classe B prescrites dans le règlement sur le brouillage radioélectrique édicté par le Ministère des Communications du Canada.

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# **Introduction**

This manual will guide you through each step of the assembly of your Data-1000 personal computer. Even if you are a new computer user, you can rest assured that you have made a wise decision in buying this system because you will not only be saving money, but you will also begin to gain important "hands-on" experience which will be of great benefit to you in the future. The detailed instructions in this manual will also ensure that you get your new computer running with a minimum of trouble.

Although newcomers to the computer world will find this system ideal for their first step, experienced hands will also appreciate the flexibility that they are allowed in configuring the system to their own special needs. The motherboard which is used is PC/XT compatible and is switchable from ordinary 4.77MHz clock speed to 10MHz Turbo speed. Moreover, a wide variety of expansion cards are available from Datatech or other manufacturers for interfacing the system with your choice of peripherals. And installation of up to two floppy disk drives and two hard disks is a snap.

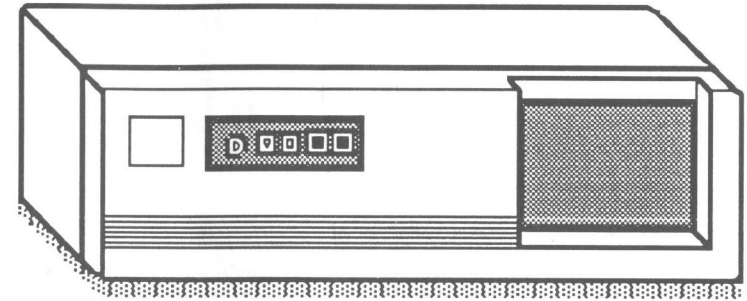
This system includes a cardboard box of miscellaneous parts, a case, a power supply, floppy disk drive and hard disk installation plates, a keyboard, a keylock key, a power cord and a motherboard. Other parts of the system such as floppy disk drives or hard disks, expansion cards and external peripherals are to be selected by the user.

## Software

The software that your system will use falls into two categories. First there is the operating system, the language of the computer that tells the system what to do. The operating system that this computer uses is Microsoft Corporation's MS-DOS<sup>®</sup>, the world's most widely used operating system for PC/XT compatibles. This means that finding application software will be as simple as going to your nearest PC store.

Application software is what you use for work and play. A spreadsheet program is an example of this kind of software.

## Installation

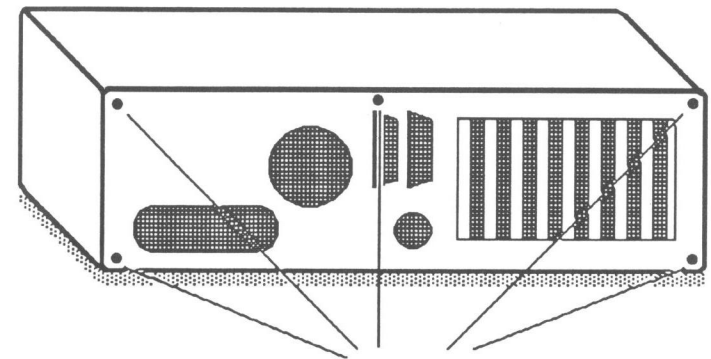


*System unit case*

The system unit case houses the motherboard, the disk drives, the power supply and the expansion cards. By following the instructions below, you can now begin assembling the system unit. You will need these tools:

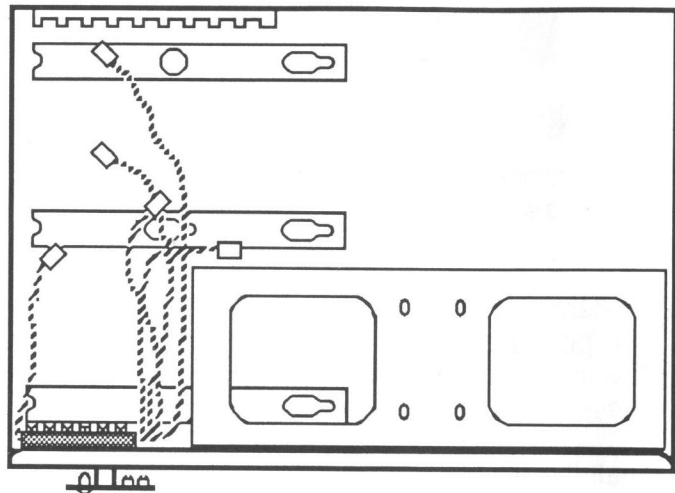
- A small flat-bladed screwdriver.
- A small Phillips screwdriver.

Now turn the case around to see the back panel.



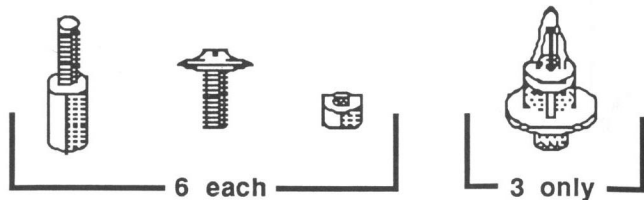
**Location of screws**

Loosen the screws at the back. After the screws are loosened, put them in a place where they will not be lost and then remove the top of the case. To remove the top, turn the case around to the front again and slide the top toward yourself. Remove the top completely from the case. Now you can see inside.

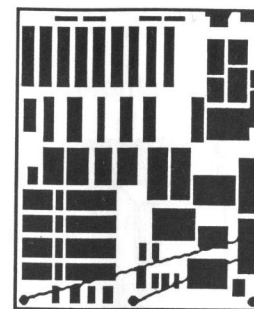


### Motherboard installation

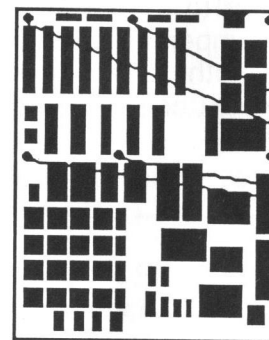
Before installing the motherboard, refer to the manual which accompanies it to make any changes to the configuration that you may require. You are now ready to install the motherboard. First, find the cardboard box of miscellaneous parts and from it select the following:



Take the plastic fitting and snap it into place on the motherboard as shown below. The pointed end should show on the side of the board that the chips are on.

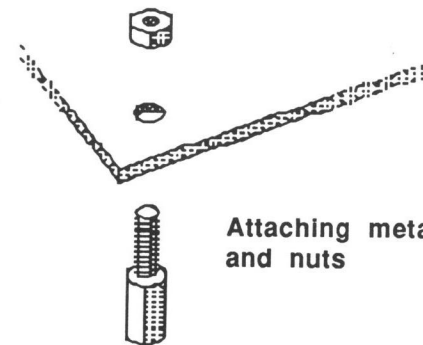


Insert plastic mountings in these holes



Location of metal connector holes

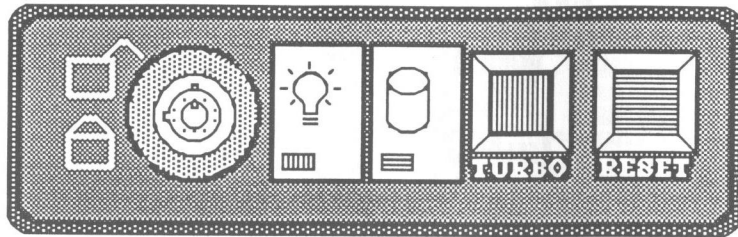
Next, attach the metal connectors and nuts to the remaining holes in the motherboard as shown below. The metal connectors should be on the underside of the motherboard.



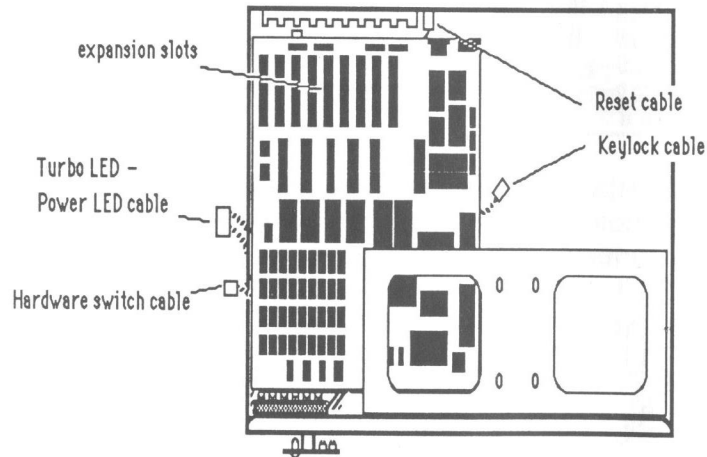
Attaching metal connectors and nuts

## Panel indicators and switches

Look at the switches and indicators on the front panel.



The five cables which are connected to the indicators and switches will be connected to jumper pins on the motherboard. Before you attach the motherboard to the case, you should position the cables underneath the motherboard as shown below:



Positioning motherboard in case

Now you should connect the cables to jumper pins on the motherboard. Refer to the motherboard manual for instructions.

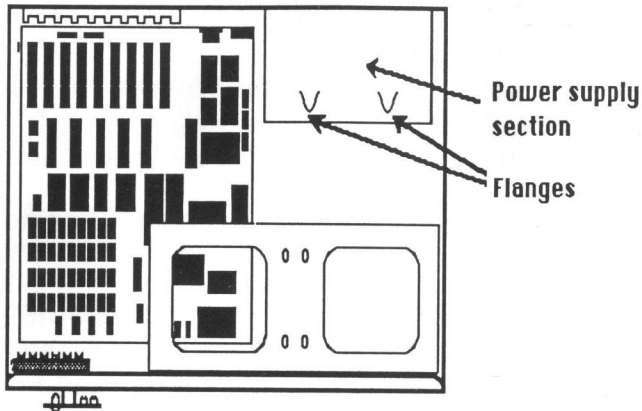
## Functions of panel indicators and switches

Now that you have connected the panel indicators and switches, you should understand something about their functions:

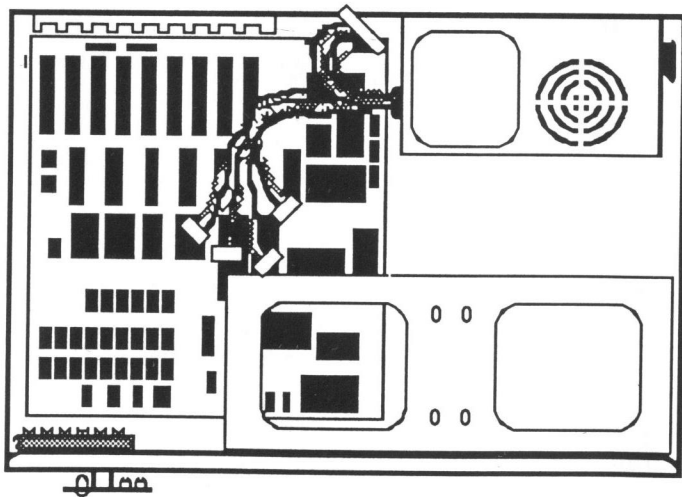
- **Keylock** The keylock is used to enable or disable the keyboard. By disabling the keyboard, the user ensures that anyone who does not have a key will be unable to use the computer. Unlocking the keylock enables the keyboard.
- **Power LED** The power LED indicates whether the power is on.
- **Reset** The reset switch restarts the computer from the RAM test stage. If you encounter any problems while using unfamiliar software, you can always start from the beginning by pressing the reset button.
- **Turbo LED** The turbo LED indicates operation at turbo speed.
- **Hardware switch** The hardware switch changes operation speed between turbo and normal.

## Installation of power supply

Installation of the power supply is relatively simple. First, find the section of the case where the power supply will be installed.



Next, position the power supply in the case so that the metal flanges in the case anchor the power supply.



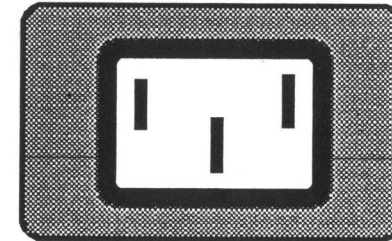
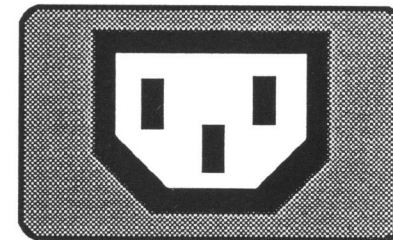
## Connections

All connections from the system unit to external peripherals and a power source are at the back of the case. As always, you should be certain all power switches are turned off before connecting or disconnecting anything. When attaching cables to connect any device, including the system unit, to something you should always connect the cable to the device first and then to the appropriate outlet.

## Power supply

The power supply has two connectors, one supplies power to monitors, the other connects to the main power source. See the following illustration.

Monitor power source



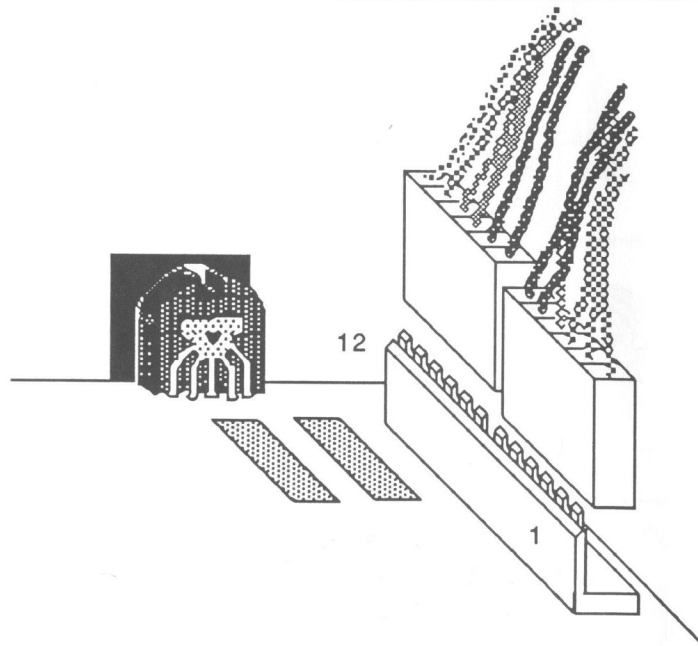
To main power source



If your monitor's power cord has a plug that matches the configuration of the power supply receptacle then you can plug the monitor into the system unit. If not, you will need to connect it to a standard electrical outlet.

You should first attach the system power cord to the connector indicated in the diagram and then to a grounded outlet.

The power supply connector is located at the upper right corner of the motherboard. To connect the power supply to the motherboard, find the two 6-pin connectors from the power supply and plug them into the connector on the motherboard. There is only one way to plug in the power supply connectors but you must make sure the black wires are to the inside (see the illustration below).

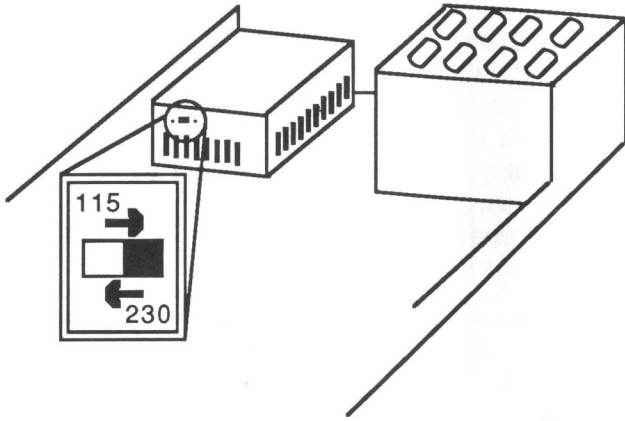


The following shows the pinouts for the power supply connector:

Pin	Assignments
1	+5V DC
2	+5V DC
3	+5V DC
4	-5V DC
5	Ground
6	Ground
7	Ground
8	Ground
9	-12V DC
10	+12V DC
11	N.C.
12	Power good

## Voltage selector switch

The location of the power supply voltage selector switch is illustrated below:



If you are using your PC in the United States, slide the voltage selector switch to 115V; in European countries, the proper voltage rating should be 230V. Refer to the following table for the appropriate specification of the power cord used:

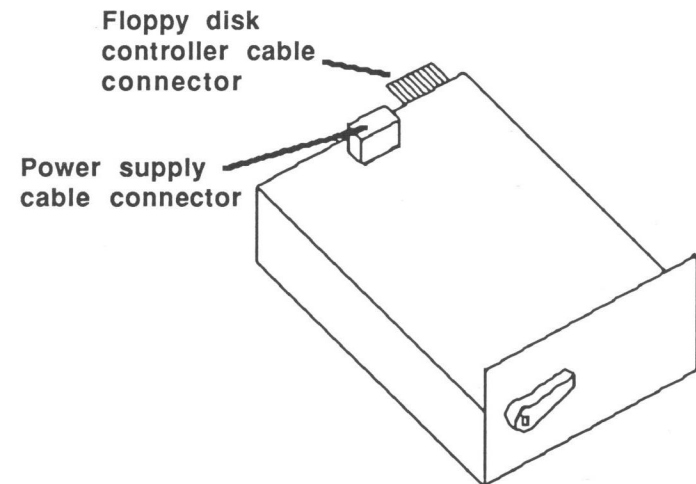
Power source	Cord specification
115V	UL listed; SVT/SJT type; three-conductor; rated 10A, 125V; <15ft. in length
230V	Appropriate approval listed in that specific country; three-conductor; rated 6A, 250V
230V (United States only)	UL listed; SVT/SJT type; three-conductor; rated 6A, 125V; <16ft. in length

## Drive installation

The number of floppy disk drives to be installed is usually optional. Up to two floppy disk drives and two hard disks may be installed in the system unit. The advantage of more disk drives and hard disks in your system is having more information and application software at your fingertips. This means that you will have more "power" and will not have to go through the time-consuming process of disk-swapping, especially if you use one or two hard disks.

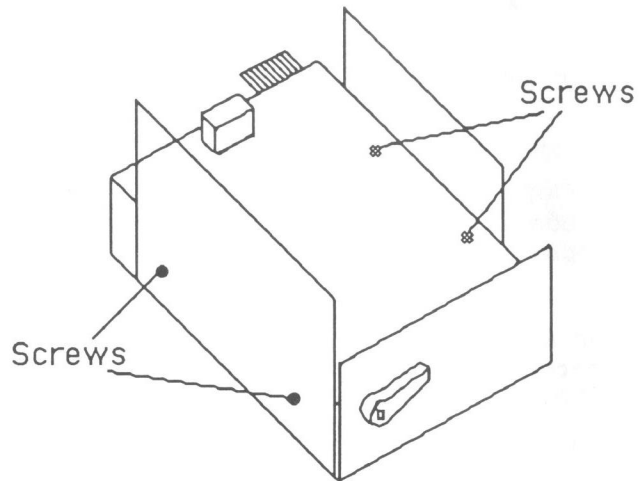
The floppy disks drives can be used with single-side, double-side or high density floppy disks. They can also be used to format disks in these three modes.

## Installation of floppy disks



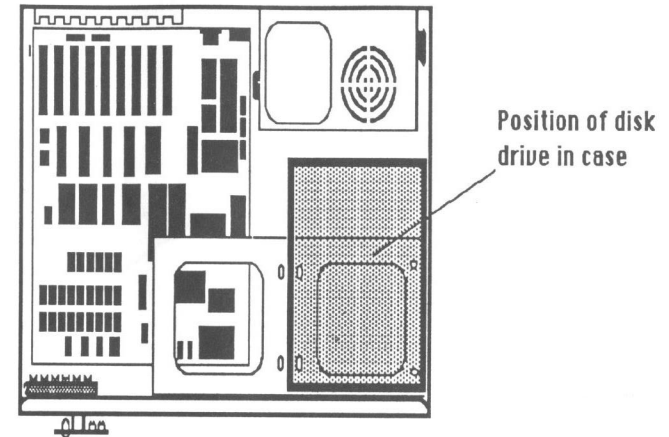
First, connect the floppy disk controller cable and one of the four cables from the power supply. The power cable is simple to connect: just plug it in. The shape of the plug ensures that no mistakes will be made. For the floppy disk controller cable, you must first have a floppy disk controller card. You should refer to the appropriate card's manual for installation instructions. One edge of the ribbon cable is marked with a color line. This specific line side of the connector should be at Pin 1 when attached to the card. Pin 1 is clearly marked on the card. The same procedure is followed for a second disk drive.

Next, attach the two metal plates included to the sides of the disk drive(s) as shown below:



Note that the plate on the right side as you see in the picture is slightly smaller. Follow the same procedure to connect the second disk drive.

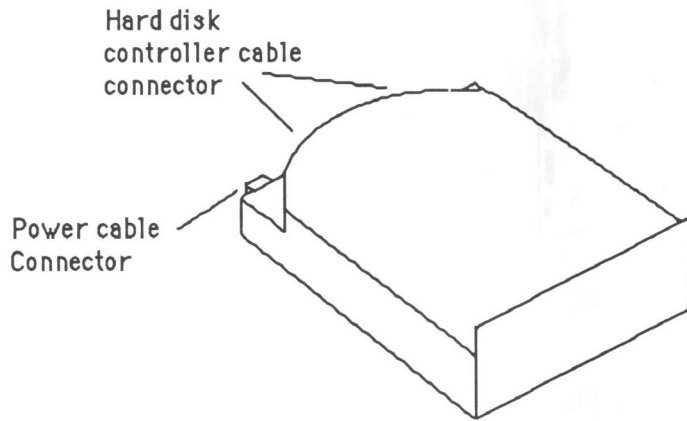
Finally, the lower disk drive will be connected to the case. Refer to the following picture to see its position in the case.



Holding the floppy disk drive(s) in place, turn the case on its side and screw the disk drive in. There are four holes. Note that the two openings in the central part of the case give access to two sets of screw holes each. The holes farther away from the center of the case are for the floppy disk drive. When you finish this operation, you will have completed the installation of the floppy disk drives.

## Installation of hard disks

The installation of a hard disk is similar to that for a floppy disk drive. In other words, the cables should be connected first, then a metal plate attached to the hard disk and finally the hard disk attached to the case. A more detailed description follows.



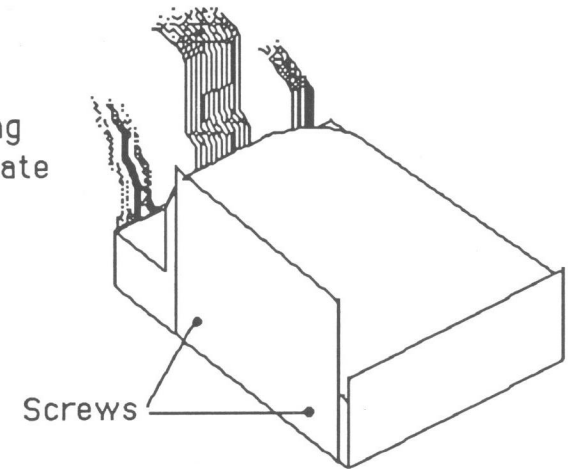
Connect the power cable and the hard disk controller cables. Note that there is only one possible way to connect the power cable and hard disk cables owing to the shape of the connectors, so it is impossible to make a mistake.

The two hard disk controller cables are of different sizes: the red wires on the cables should be connected toward the central portion of the case.

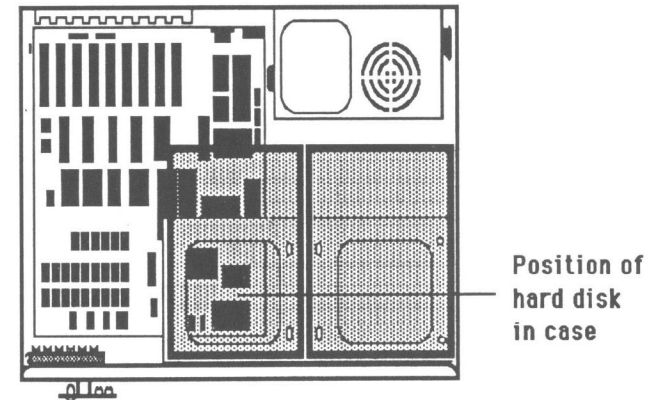
Next, connect the metal plate as shown in the illustration on the next page.

3

Attaching  
metal plate



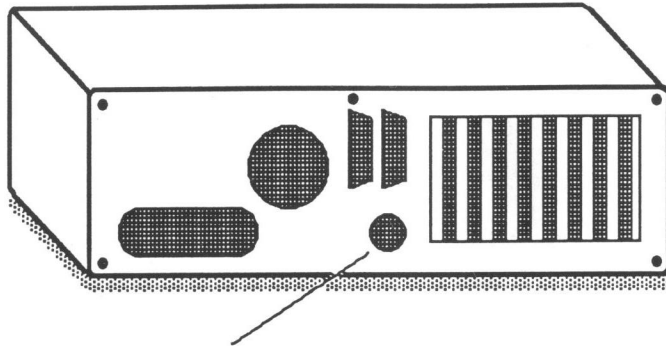
Note that only one plate is attached to the hard disk. Finally, the hard disk is connected to the case as shown below:



Position the hard disk in the case as shown, turn the case on its side and fasten the hard disk to the case with two screws. The installation of the hard disk is now complete. Follow the same steps for installation of a second hard disk. The second hard disk will be fastened to the metal plate only.

## Keyboard installation and usage

You are now ready to install the keyboard. Look at the back panel of your system unit. Referring to the picture below, you may now plug the cable from your keyboard into the keyboard connector at the back.

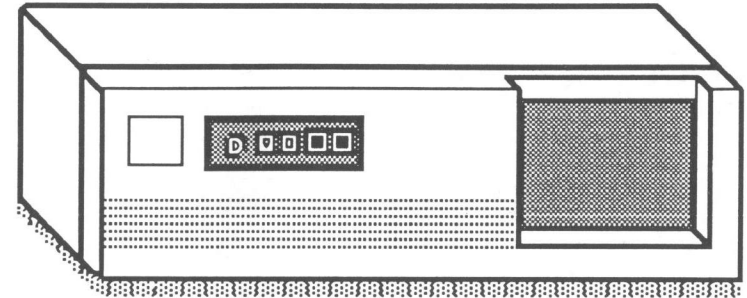


**Keyboard connector**

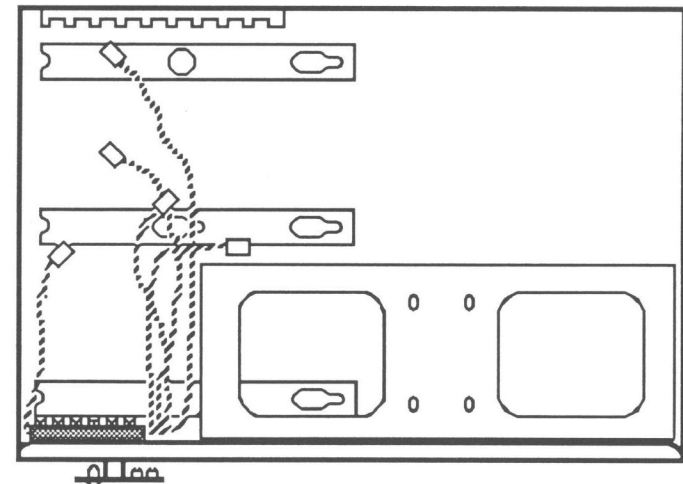
The rest of this section will explain the usage of the keyboard.

## Specifications

### Case specifications

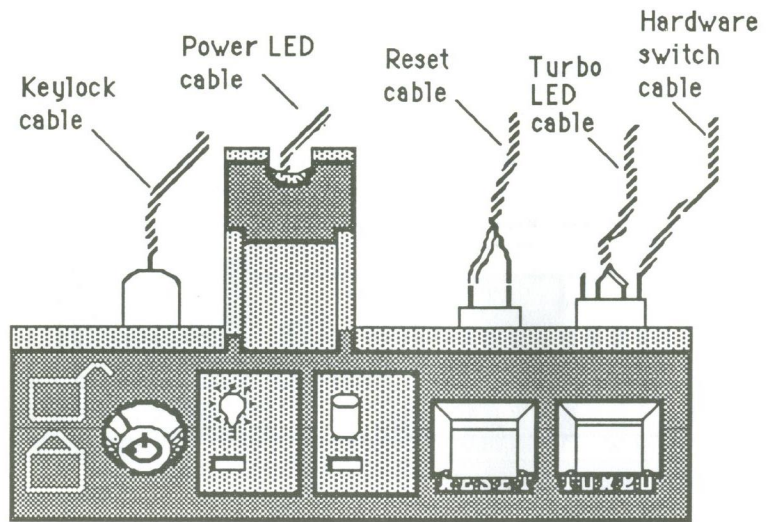


*External view of case*



*Internal view of case*

## Panel specifications



The panel has all the features shown above: a keylock, a power LED, a reset switch and a turbo switch.

The cables from the panel connect to the motherboard as shown in the motherboard manual.

