DESKPOWER 5000 Series User's Manual

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Greetings

We thank you for purchasing the Fujitsu DESKPOWER 5000 personal computer.
This manual explains how to use the hardware of the DESKPOWER 5000.
Please read this manual carefully to ensure correct use of the DESKPOWER 5000.

June 1999

This unit may malfunction if the power source is interrupted suddenly, for example, due to lightning. Fujitsu recommends the use of an AC non-interruptible power supply unit.

(Based on guidelines for the prevention of sudden voltage interruptions by Japan Electronic Industry Development Association (JEIDA).

This unit is class B information technology equipment based on the Voluntary Control Council for Interference (VCCI) standard by Information Technology Equipment and may create interference if used near radio or television receivers.
Use the unit in accordance with information provided in the manual.

This unit conforms to the Personal Computer Industry Standard (PC-11-1988) of the Japan Electronic Industry Development Association (JEIDA).

This unit conforms to the harmonic guideline.

Because this product includes cargo based on the “Foreign Exchange and Foreign Trade Control Act,” the export of this product may require permission in accordance with said act.

Fujitsu, who is a participant of the International Energy Star Program, determines that this product conforms to the International Energy Star Program Standard. The International Energy Star Program is an international program for promoting energy conservation of office equipment such as computers and strives to develop and promote products capable of efficient energy use. This program is open to all manufacturers, and the products to be developed include computers, displays, printers, facsimiles, and copy machines. The same standard and markings ( ) are used among participating countries.
The energy-saving function of this product, however, may not be applicable because of limitations with the operating system (such as Windows NT).

Conventions used in this manual

● Warning icons

Various icons and icon/word combinations are used in this manual to encourage users to use the equipment so as to minimize personal risk and prevent property damage. The icons are explained as follows. The user should be familiar with the icons before responding to the corresponding instructions.

⚠WARNING Indicates a hazardous situation that could result in fatal or serious wound if the correct procedure is not applied.

⚠CAUTION Indicates a hazardous situation that could result in personal injury and/or property damage if the correct procedure is not applied.

The following icons are also used with the above icon/word combinations to prevent personal injury and/or property damage.

The icon △ that indicates the corresponding instruction is a warning. The illustration displayed inside or beside the icon shows what the warning actually means.

The icon ⃠ that indicates the corresponding instruction is a banned action.The illustration displayed inside or beside the icon shows what is actually banned.

The icon ● that indicates the corresponding instruction is a command to proceed. The illustration displayed inside or beside the icon shows what to proceed.

● Representing keys and use thereof

In the text of the manual, keyboard keys are represented using only necessary characters as shown below.

Example: [Ctrl] key, [Enter] key, and [→] key

When more than one key is to be pressed simultaneously, the keys are represented using "+" between keys as shown below:

Example: [Ctrl] + [F3] and [Shift] + [↑]

● Representing buttons

Buttons displayed on the screen are enclosed in square brackets, [and], as shown below:

Example: [OK]

● Command entries

In the text of the manual, a command is represented as shown below:

```
diskcopy a: a:
         ↑  ↑
```

A blank (shown with [↑]) between characters indicates that the [Space] key (long bar on the front of the keyboard) is to be pressed once. Command names are represented in lowercase but may be entered using uppercase letters.

● Conventions used in the text of the manual

The symbols used in the text of the manual have meanings as explained below:

Point Point indicates information necessary to run hardware or software.

Help Help indicates information explaining how to terminate an incorrect operation or troubleshoot.

● Screen display examples

Screen displays provided in this manual are examples and may be different from those (including file names) actually appearing on the display screen.

● Illustrations

Illustrations in this manual are an example using (mainly) the DESKPOWER 5000 (CD-ROM drive-equipped model) and may be different from those actually appearing on your PC screen depending on the model type and options installed.

● Custom-made options

Descriptions in this manual are based on the standard specifications.
Note that when custom-made options are installed, memory capacity, hard disk capacity, and other specifications differ from the standard.

● Referencing products

In this manual, products are described using abbreviations as listed below:

Windows 95 refers to Microsoft® Windows® 95 operating system.

Windows 98 refers to Microsoft® Windows® 98 operating system.

Windows NT refers to Microsoft® Windows NT® Workstation operating system Version 4.0.

MS-DOS refers to Microsoft(R) MS-DOS(R) operating system Version 6.2/V.

ICU refers to ISA Configuration Utility.

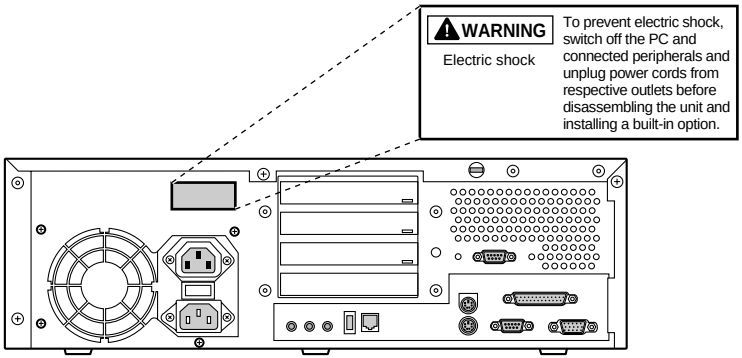
The terms "your PC," "the PC," "your PC main unit," and "the PC main unit" refer to the DESKPOWER 5000

Warning and caution labels

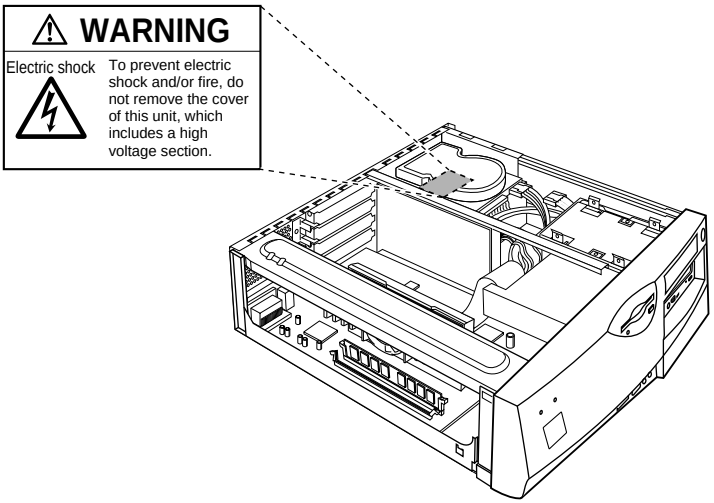
The PC bears warning and caution labels as shown below.

The warning and caution labels must not be removed or damaged.

● **Rear of the PC main unit**



● **Inside the PC main unit**



WARNING

Electric shock

● Before mounting or dismounting an optional unit in/from your PC, switch off the PC and all connected units and unplug all power cords from respective outlets to prevent electric shock.

Manual configuration

Chapter 1 Installation and Connection

This chapter outlines precautions that should be noted when installing the PC and explains how to connect various cables. Consult this chapter before assembling the PC.

Chapter 2 Basic Operations

This chapter explains basic operations required to use the PC, such as how to switch the power on and off and how to proceed with storage media.
Consult this chapter.

Chapter 3 Installing Internal Options

This chapter explains how to install internal options such as hard disk and expansion cards.
Consult this chapter as required.

Chapter 4 BIOS Setup

This chapter explains the BIOS Setup program required for installing an internal option in your PC or setting it in the power saving mode.
Consult this chapter as required.

Chapter 5 Troubleshooting

This chapter explains how to proceed if your PC does not operate correctly or if an error message appears.
Consult this chapter as required.

Appendix

This appendix provides the name of each component of your PC, information relevant to PC maintenance, the specification of the PC main unit, and a list of precautions.
Consult this appendix.

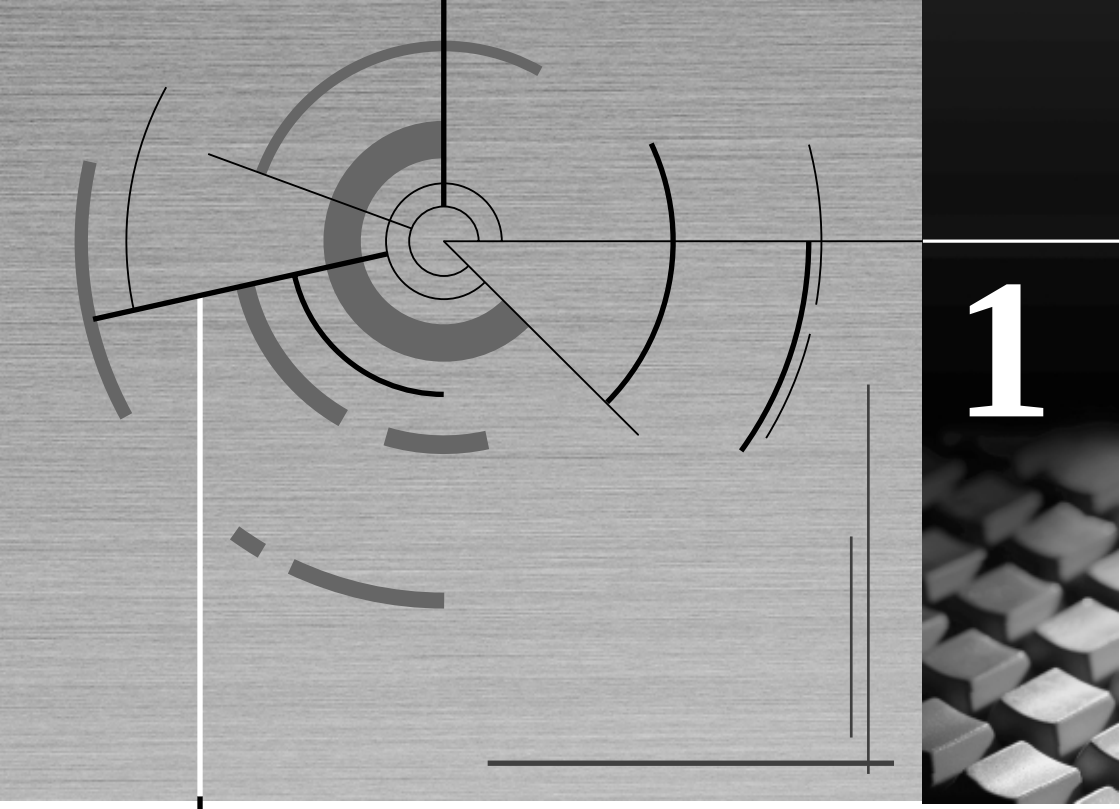
Contents

Chapter 3 Installing Internal Options

Chapter 4 BIOS Setup

Chapter 5 Troubleshooting

Appendix



Chapter 1 Installation and Connection

This chapter outlines precautions that should be noted when installing the PC and explains how to connect various cables.

1 Installation

This section provides notes on installing and using the PC.

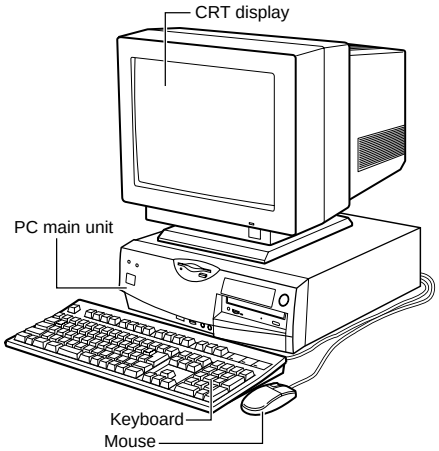
Installation location

Do not install the PC in the following areas:

- Area exposed to moisture, dust, or smoke
- Area poorly ventilated
- Area having open flames
- Area that may expose the PC to water
- Area exposed to direct sunlight or high temperatures.
- Area having temperatures below 10 ˚C.
- Area that are unusually small or crowded
- Area having a strong magnetic field (close to a TV or speaker)
- Area exposed to strong vibration and areas that are unstable such as an inclined surface

Example of installing the PC

Install the PC as follows.



Point

Confirm that the ventilation holes at the rear or on the bottom of the PC main unit are not blocked when installing the PC.

Preventing electromagnetic interference with a TV or radio

Your PC complies with the VCCI Standard restricting electromagnetic interference with a TV or radio. However, the computer may interfere with a TV or radio depending on the installation location.

To prevent the PC from interfering with TV or radio reception, note the following:

● Precautions to be taken by the PC user

- Do not use the PC with the cover removed.
- Use the specified cable to connect the PC with a peripheral. Do not use an unauthorized cable.
- After installing a cable, ensure that the connector is firmly attached and the screws (if any) are tight.
- Do not plug the PC in the same outlet as a TV or radio.

● Precautions to be taken by the TV or radio

- Do not place a TV or radio near the PC.
- Position TV or radio antennas in such a way that interference is minimized.
- Stay away the antenna line of a TV or radio near from the PC.
- Use coaxial cables as antenna feeders.

If interference with TV or radio reception continues after switching off the PC and peripherals, check the above items again.

2 Connection

Connect the display, keyboard, and power cord to your PC main unit

⚠WARNING

Electric shock

- To prevent electric shock, ground the device (if required) before providing power to the equipment.
  To prevent fire, do not connect the ground wire to a gas pipe.

Electric shock

- To prevent electric shock, unplug the PC main unit and connected equipment before attaching and detaching a CRT display, keyboard, mouse, LAN cables, and power cords.

Electric shock

- To prevent electric shock, fire, and/or malfunction, ensure that the display, keyboard, and mouse are all Fujitsu brand products.

⚠CAUTION

Failure

- Ensure that cables are connected correctly.
  Using the PC and peripherals when connected incorrectly may result in a malfunction.

Fire

- To prevent a fire and/or malfunction, connect only the specified device to the AC service outlet (if provided).

Injury

- To prevent injury and/or malfunction, do not touch PC board components that are not specified.

Connect the LAN cable.
Secure one end of the twisted pair cable (purchased separately) to the LAN connector at the rear of the PC main unit.

Connect the LAN cable.
Secure the other end of the twisted pair cable (purchased separately) to the network connector.

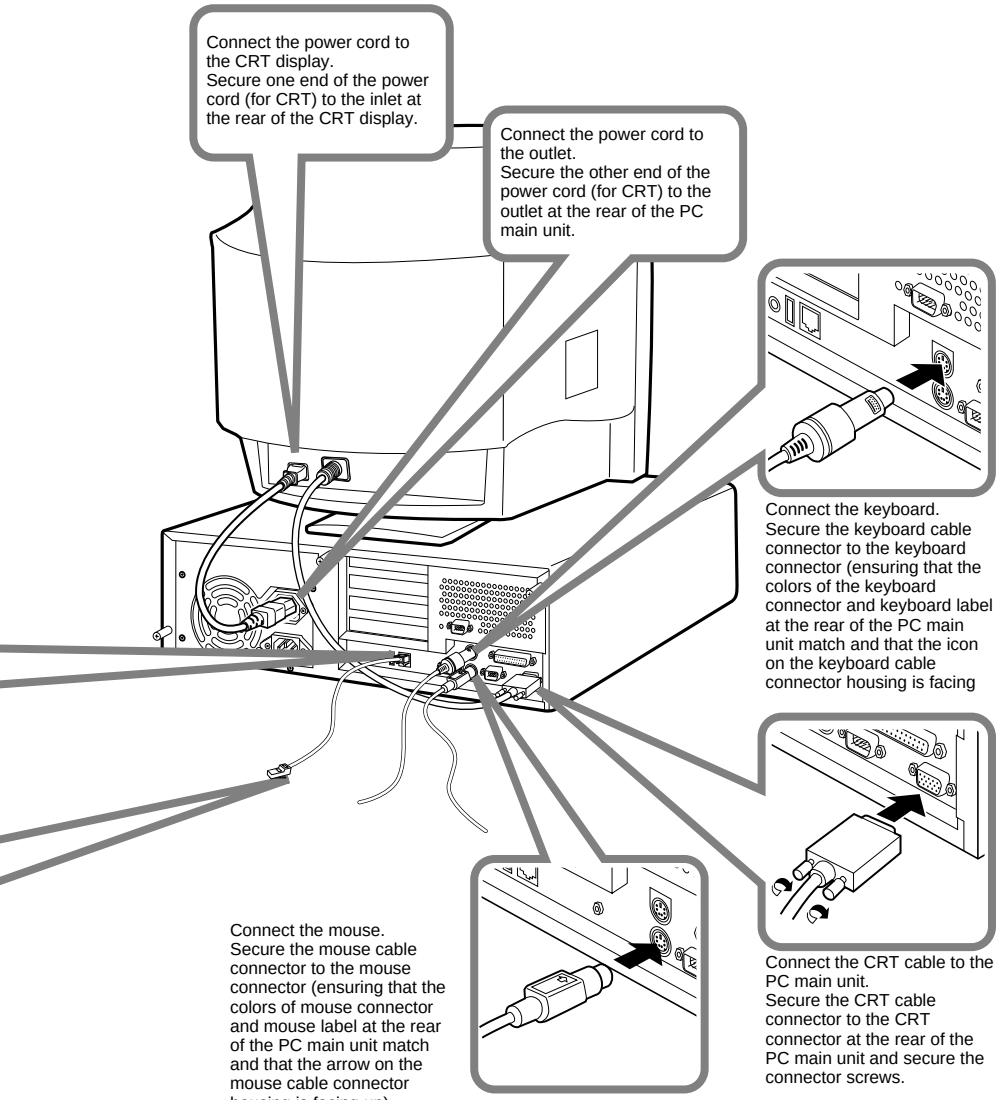
Point

To connect a LAN cable, use a twisted pair cable, which must be purchased separately as it is not included with your PC package.

Attaching CRT display, keyboard, mouse, and LAN cables

Point

This section explains how to connect the CRT display so as to supply power from the PC main unit. In this case, the power cord included with the CRT display is not used.



Connecting the power cord

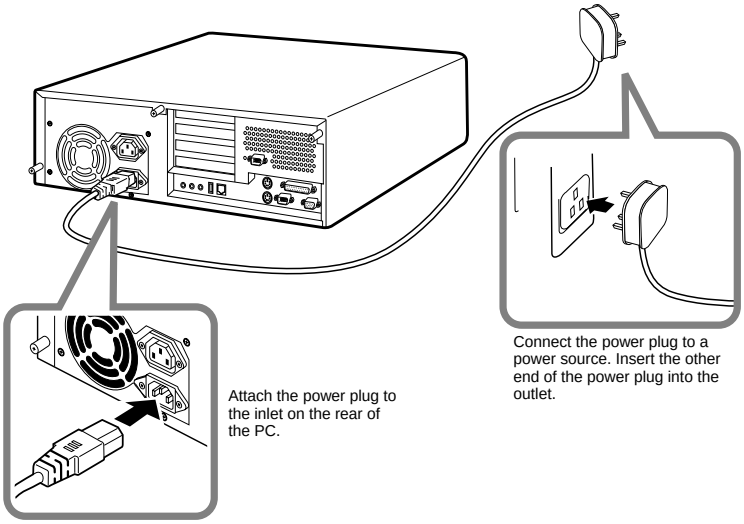
After connecting the display and other peripherals to the PC main unit, note the following when connecting the power cord of the PC main unit.

- Do not plug or unplug the power cord with wet hands.
- Do not damage or remodel the power cord.
- Do not bend, stretch, or place heavy objects on the power cord.
- Do not use the PC if the power cord or plug is damaged
- If the electrodes of the power cord plug or the corresponding outlet is dusty, wipe with a dry cloth.
- Connect the power cord to a household power source.

Point

Do not plug the power cord of your PC in a multiple plug box. Do not entangle the keyboard and mouse cables.

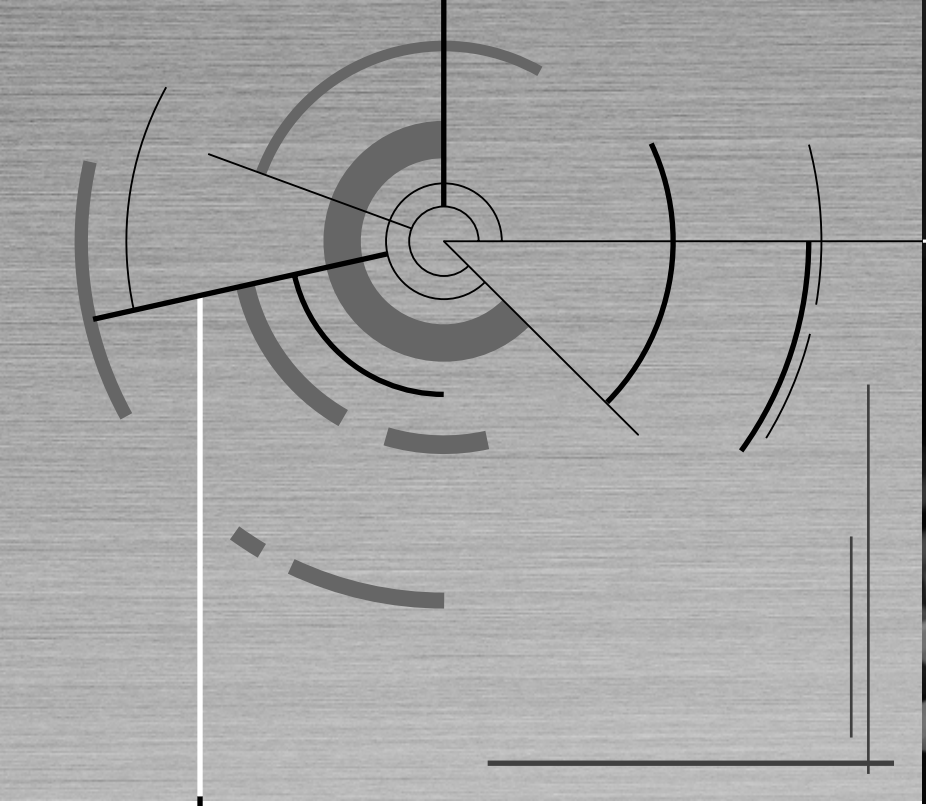
- Unplug all power cords during an electrical storm.
- If only a two-pin outlet is available, use the adapter plug provided and connect the ground wire.
- When unplugging a power cord, secure the plug housing.
- Ensure that the power plug is fully inserted into the outlet.
- Unplug the PC when not being used for a period of time.



Upon completion of all connections

Upon completion of all connections, fill out all user registration cards included with your PC package.

The registration cards are used by manufacturers to obtain user information.



2

Chapter 2 Basic Operations

This chapter explains basic operation methods of the PC such as how to turn the power on and off and handle storage media.

1 Switching on

This section explains how to switch on the PC.

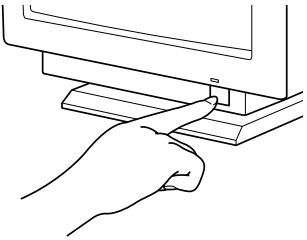
⚠CAUTION

Prohibited action

- To prevent malfunction after turning on the PC, do not move equipment or subject equipment to shock and/or vibration.

1 **Press the power switch of the CRT display.**

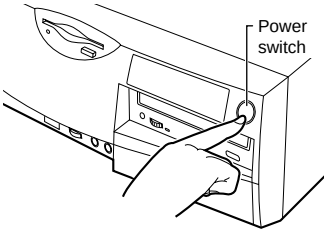
There is no display.



2 **Press the power switch of the PC main unit.**

The power lamps of the PC main unit and CRT display light up green.

When the power is switched on, the Power On Self Test (POST) used to check the devices inside the PC is performed.



Point

- Before switching on the PC, make sure that display is connected. If the PC is switched on before the display is connected, the display adapter may not be recognized, and the screen may not be displayed normally. In this case, connect the display, terminate the OS, switch off the PC, and then switch on the PC again.
- If the display area is not centered on the screen, adjust the CRT display.
- The power lamp lights up orange when the PC is placed in standby status.
- If POST detects abnormal conditions, an error message is displayed. For error messages, see Section 1, " Error Messages," in Chapter 5, "Troubleshooting."
- If the CRT display power cord is connected to the PC main unit, the CRT display is switched on simultaneously with the PC main unit. In this case, the power switch of the CRT display may remain in the on position, thereby eliminating the need to set the switch at each operation.
  Press the power switch of the PC main unit only when using the PC again, as described in step 2, at which time the display is switched on automatically.
- Wait about 10 seconds before switching the PC on or off again.
- When starting the screen display or switching the display mode, the screen may become disordered or vertical lines may appear temporarily (at the start and end screens of Windows or when returning from the power savings mode).
  This is not an error.
- The refresh rate of the screen must be set according to the CRT display to be used. For extreme overflow or inclination, adjust the CRT display.

After turning on the power, set up the PC.

2 Switching off

This section explains how to turn off the PC.

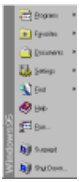
Point

- Before turning off the power, terminate all jobs and save all necessary data.
- Before turning off the power, confirm that the access indicator lamps (•••➤ see Appendix 1, "Name and Function of Each Component") of the floppy and hard disk drives are off. If the power is turned off while the access indicator lamps are on, data may be lost or data in the floppy disk or hard disk may be destroyed.
- If the power cord is unplugged from the outlet or the power is disconnected due to a power failure while the PC is on, re-connect he power cord or wait until AC power recovers. When the power recovers, the PC is automatically turned on and started. "Press <F2> to enter SETUP" may be displayed at this time. In this case, press the [F2] key, check the Setup items from the menu, and restart the PC.
- If the "Power switch" of the BIOS setup is set to "Standby," pressing the power switch does not switch off the PC. (•••➤ see Section 5, "Power-Saving Menu," in Chapter 4, "BIOS Setup").
- Do not turn off the PC while the POST is operating. To switch off the PC while the POST is operating, press the power switch for at least four seconds and confirm that the power lamp goes off.
- If the power is turned off during the POST operation due to a power failure or some other reason, the message, [Press <F1> to resume, <F2> to setup], may be displayed at rebooting. In this case, press [F2] key, confirm the setup menu, and then reboot.
- If the power lamp is on in orange, repress the power switch for at least four seconds.

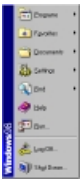
Turning off the power via Windows 95/98

1 **Click [Start].**

The "Start" menu appears.



For Windows 95



For Windows 98

2 Click [Shut Down].

The following dialog box appears.

For Windows 95

For Windows 98

3 Check that "Shut down the computer?" has been selected and then click [OK].

The power is turned off automatically.

Point

If "APM Power Controls" on the BIOS setup menu is set to "Disabled," the message "The computer is ready for shut down" is displayed. Since power is not automatically turned off, press the Power button to turn off the power. (•••➤ See Section 5, "Power Menu," in Chapter 4, "BIOS Setup.")

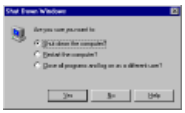
Turning off the power via Windows NT

1 Click [Start].

The "Start" menu appears.

2 Click [Shut Down].

The following dialog box appears.



3 Check that "Shut down the computer?" has been selected and then click [Yes].

Turned off the system unit.

3 Reset

The PC is reset after software is installed or if software fails to run normally. This section explains how to reset the PC.

Point

Resetting the PC results in memory data being lost. Before resetting, save all necessary data.

Resetting the PC via Windows 95/98

This section explains how to reset the PC via Windows 95/98.

1. **Click [Start] and "Shut Down."**
   The "Shut Down Windows" dialog box appears.
2. **Select "Restart the computer?" and then click [OK].**
   The PC is reset.

Point

If Windows 95/98 does not respond to the keyboard or mouse, reset the PC as follows:

1 Press [Ctrl] + [Alt] + [Delete].
The "Close Program" dialog box appears.
Follow the instructions in this dialog box.

Resetting the PC via Windows NT

This section explains how to reset the PC via Windows NT.

1. **Click [Start] and "Shut Down."**
   The "Shut Down Windows" dialog box appears.
2. **Select "Restart the computer?" and click [Yes].**
   The PC is reset.

Point

The following procedure can also be used to reset the PC:

1 Press [Ctrl] + [Alt] + [Delete].
The "Windows NT Security" dialog box appears.

2 Click [Shut Down].
The "Shut Down Computer" dialog box appears.

3 Select "Switch off power after shut down?" and click [OK].
The PC is reset.

4 Floppy Disk

A floppy disk is a storage medium used to save programs and other information.
This section explains how to mount and dismount floppy disks.

Point

Use a floppy disk formatted for DOS. If a disk other than DOS is used, the operation may not execute correctly.

Handling precautions

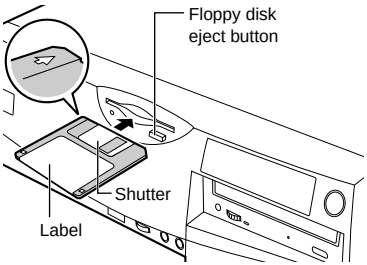
To prevent malfunctions, note the following precautions regarding floppy disks:

- Do not get wet.
- Do not open the disk shutter.
- Do not bend or place heavy objects thereon.
- Do not expose to magnetic force.
- Do not drop.
- Do not store in areas exposed to high or low temperatures.
- Do not store in a damp or dusty area.
- Do not overlay labels.
- Do not get wet.

Mounting and dismounting a floppy disk

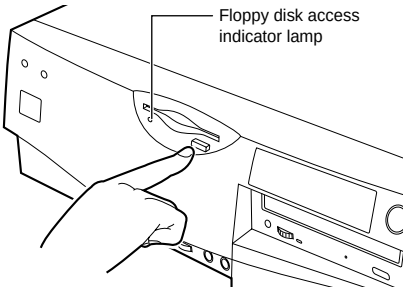
● Mounting a floppy disk

1 **With the label facing left, insert the floppy disk into the drive shutter-end-first.**
The floppy disk eject button clicks and is pushed out.



● Dismounting a floppy disk

1 **Confirm that the floppy disk access indicator lamp is off.**



Point

To prevent data from being destroyed, do not dismount a floppy disk from the drive when the floppy disk access indicator lamp is on.

2 **Press the floppy disk eject button.**
The floppy disk is ejected.

5 CD-ROM

Your PC incorporates a CD-ROM drive.
This section explains how to handle, mount, and dismount CD-ROM disks.

Handling precautions

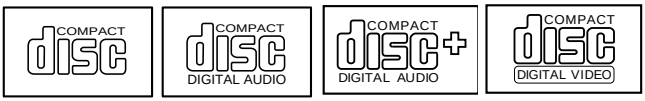
To prevent malfunctions, note the following precautions regarding CD-ROM disks:

- Do not write on the label side (printed side) using a ball-point pen or pencil and do not affix extra labels.
- Do not touch or scratch the data side.
- Do not bend or place heavy objects thereon.
- Clean (moisture or dust, moving from the center to the periphery) using a dry soft cloth (do not use a cleaning solution).
- Do not get wet.
- Do not store in areas exposed to high or low temperatures.
- Do not store in damp or dusty areas.

Point

CD-ROMs (developed from music compact disks (CD)) are used to save PC information (such as characters). The term "ROM" stands for "Read Only Memory," which means that the user can only read data in the disk. The PC can read data from a CD-ROM disk but cannot write data onto a disk.

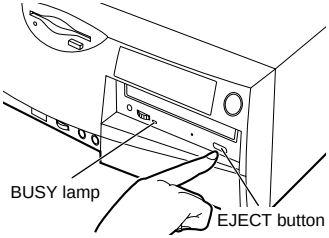
The PC can read CD-ROM disks having the following markings:



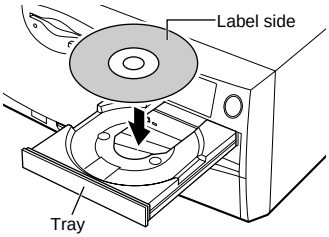
Mounting and dismounting a CD-ROM disk

● Mounting a CD-ROM

1 **Press the EJECT button.**
The CD-ROM tray is ejected.



2 **With the label side of the CD-ROM disk facing up, place the CD-ROM disk in the center of the tray.**



3 **Press the EJECT button.**
The tray retracts into the PC main unit and the CD-ROM is set.

Point

- When the CD-ROM is set, the BUSY lamp goes on. When the BUSY lamp goes off, proceed to the next step.
- Pressing the EJECT button when inserting the tray does not set the tray correctly.

● Dismounting a CD-ROM

To dismount a CD-ROM disk, confirm that the BUSY lamp is off, then press the EJECT button as shown above.

6 Hard Disk

Your PC incorporates a built-in hard disk. This section outlines precautions to take when handling a hard disk.

What is a hard disk?

A hard disk is used to save software and other data and consists of a magnetic disk packed in a box as shown on the right. A hard disk can save more data and can read and write data faster than is possible with floppy disks.

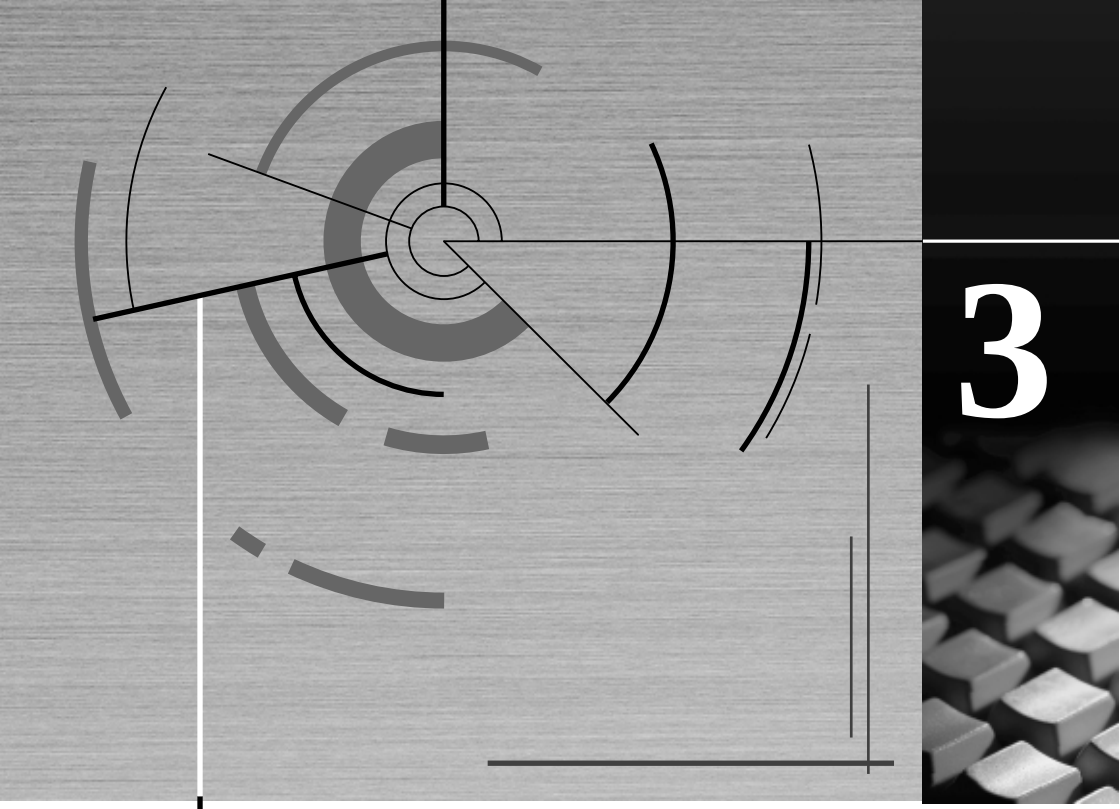
Handling precautions

To prevent malfunctions, note the following precautions regarding hard disks:

- Do not move or subject the PC to shock and/or vibration with its power on.
- Do not expose to extreme temperature changes.
- Do not place in areas exposed to direct sunlight or near heating units.
- Do not store in areas subjected to shock or vibration.
- Do not store in damp or dusty areas.
- Do not expose to a strong magnetic field.
- Do not disassemble or remodel.
- Do not get wet.

Point

- Because incorrect handling may destroy data in a hard disk, back up all necessary data.
- Because there is a difference in the storage capacity of same-type hard disks, back up data for each file or segment, not for each hard disk.



Chapter 3 Installing Internal Options

This chapter explains how to install internal options in your PC.

Introduction

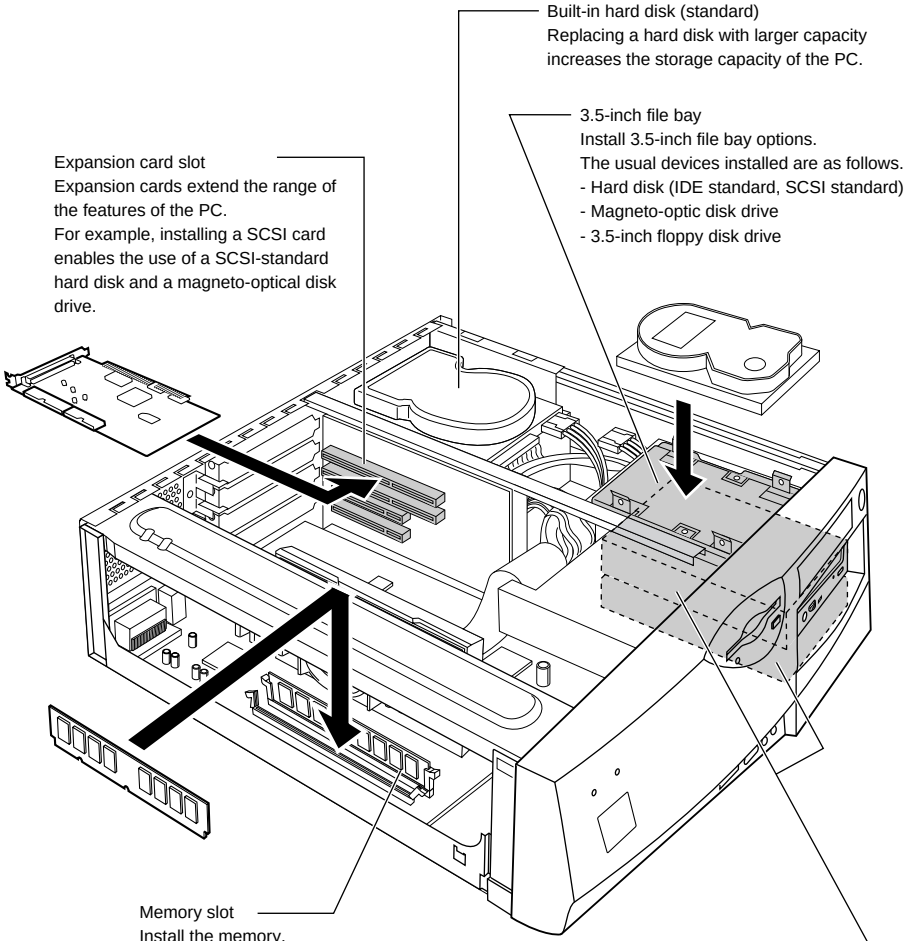
The features and performance of your PC can be upgraded by installing options. This section describes the types of internal options that can be installed in the PC and explains how to remove the upper cover and front panel in preparation for installing the internal options.

Handling precautions

Note the following when installing internal options:

- Before starting operation, switch off the PC and all connected peripherals and unplug power cords from respective outlets.
- Immediately after the PC is turned off, internal components and units of the PC are hot. When installing and removing internal options, turn off the power and allow the PC to cool down for about 10 minutes before starting operation.
- Do not disassemble the power supply unit (a box-shaped device inside the PC).
- Do not damage or remodel internal cables or units.
- Because internal options are PC boards with exposed soldered sections that may be damaged by a static electrical charge, discharge any accumulated static electricity before handling.
- Secure the board by the metal bracket portions or an edge of the PC board such that the surface of the PC board and the soldered sections are not handled.
- Installation and disassembly of options other than Fujitsu brand products void the warranty.

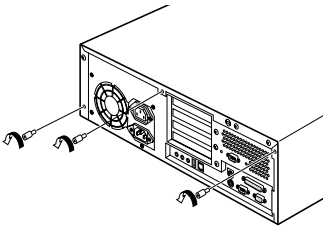
Installing positions of internal options



Removing the upper cover

When installing internal options, remove the upper cover so as to reveal the inside of the main unit.

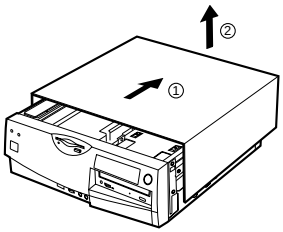
1 **Remove three screws at the rear of the PC main unit.**



2 **Remove the upper cover.**

Slide the upper cover to the rear of the PC main unit (in the direction of arrow ① in the figure)

Lift and remove the cover (in the direction of arrow ② in the figure).



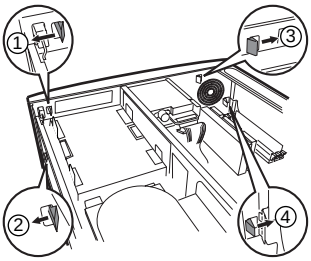
Point

- To replace the cover, reverse the above procedure.
- If the upper cover of the PC main unit is left removed, the internal battery life will shorten. Keep the duration when the upper cover is left removed at minimum requirement such as only for installing internal options.

Removing the front panel

Remove the front panel when installing internal options in file bays. (Removal of the front panel is not required when installing a hard disk in a 3.5-inch file bay.)

1 **Release hooks in order from ① to ④ and pull out the front panel.**

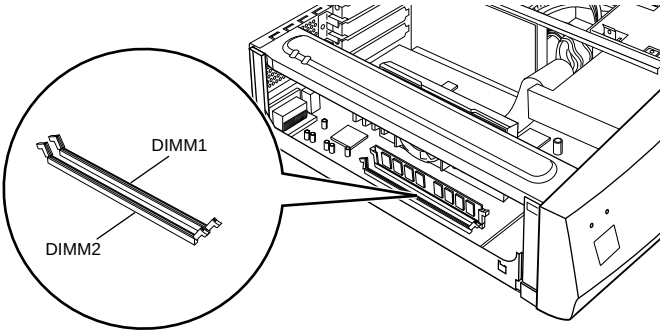


Point

To attach the front panel, secure the hooks in order from ① to ④ in the figure.

2 Installing Memory Modules

This section explains how to install and remove additional memory modules. Memory expansion in your PC increases the amount of data to be read and enhances the throughput of the PC.



Point

To install a memory module, set up the PC, turn off the power, and install the memory module.

WARNING

Electric shock

- To prevent electric shock, before installing and removing memory modules, turn off the PC and connected units and unplug power cords from respective outlets.

Electric shock

- To prevent electric shock, fire, and/or malfunction, install only Fujitsu brand memory modules in the PC.

CAUTION

Injury

- To prevent personal injury and/or malfunction, when installing and removing memory modules, only remove screws from specified locations.

Injury

- To prevent injury and/or malfunction, do not touch PC board components not specified.

Memory

A total of up to 512 megabytes of memory modules can be installed.
A memory module has been installed in DIMM1 as standard.
Install a memory module to be added in DIMM2.
To ensure a total of 512 megabytes of memory, replace the memory module in DIMM1 with a 256-megabyte memory module.

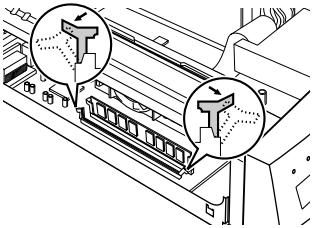
Point

Install a Fujitsu genuine memory module to ensure PC operation.

Installing an additional memory

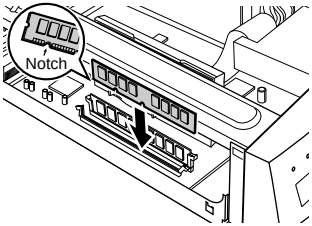
1 **Remove the upper cover.**

2 **Push down the hooks at both ends of the slot.**



3 **Insert the memory card into the slot.**

Insert the memory module vertically while aligning the memory module notches and the socket keys. The hooks at both ends of the slot are raised. Confirm that the memory card is securely locked in place.

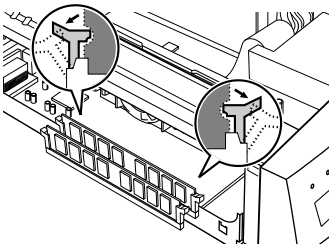


4 **Attach the upper cover.**

Removing the memory

1 **Remove the upper cover.**

2 **Open thehooks out at both ends of the slot and remove the memory module.**



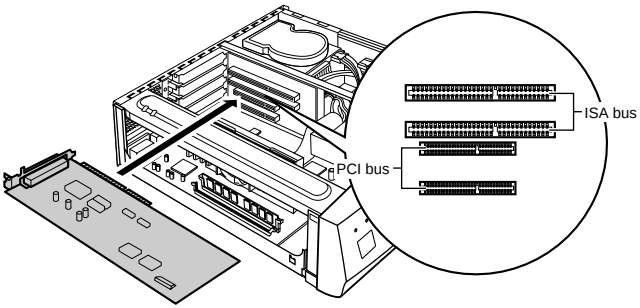
Point

Note that opening the hooks out forcefully causes the memory card to pop out of the slot and may cause a malfunction.

3 **Attach the upper cover.**

3 Installing Expansion Cards

This section explains how to install expansion cards, which extend the range of the features of your PC.



Point

- To install an expansion card, set up the PC, turn off the power, and install the expansion card.
- The first and second black slots from the top are for ISA cards. The third and fourth white slots from the top are for PCI cards.
- Only a half-size expansion card can be installed in the first slot from the top.
- When an expansion card using a serial port such as a modem card is installed, change the duplicated serial port to "Not used" in the BIOS setup (•••➤ see "Setting the serial/ parallel ports" in Section 3, "Detail Menu," in Chapter 4, "BIOS Setup").

⚠WARNING

Electric shock

- To prevent electric shock, before installing and removing expansion cards, turn off the PC and connected units and unplug power cords from respective outlets.
- To prevent electric shock, fire, and/or malfunction, install only Fujitsu brand expansion cards in the PC.

⚠CAUTION

Injury

- To prevent injury, when installing and removing expansion cards, remove screws only from specified locations.

Injury

- To prevent injury and/or malfunction, do not touch PC board components not specified.
- To prevent injury and/or device failure, do not touch the metal bracket on the motherboard at the rear of the PC main unit.

To install expansion cards, "resources" must be set.
The floppy disk drive or hard disk drive inside the PC uses predetermined paths specific to those devices when transferring data with the CPU and memory.
These paths include I/O port addresses, DMA channels, and interrupt levels (IRQ), which are generally called "resources."

There are two types of expansion cards: one for PCI bus and one for ISA bus.
Expansion cards for PCI bus are "Plug & Play compatible cards."
Expansion cards for ISA bus may be either "Plug & Play compatible cards" or "Plug & Play incompatible cards."
Before installing expansion cards, read the following descriptions.

Expansion cards for PCI bus (Plug & Play compatible cards)

When PCI bus expansion cards are installed, resources are set automatically.
Card installation procedures differ depending on the operating system.
Card installation procedure:
For PCs using Windows 95/98,
(•••➤ see "Expansion card installation procedure for a PC using Windows 95/98.")
For PCs using Windows NT,
(•••➤ see "Expansion card installation procedure for a PC using Windows NT.")

Expansion cards for ISA bus

Plug & Play compatible cards and Plug & Play incompatible cards are described below.

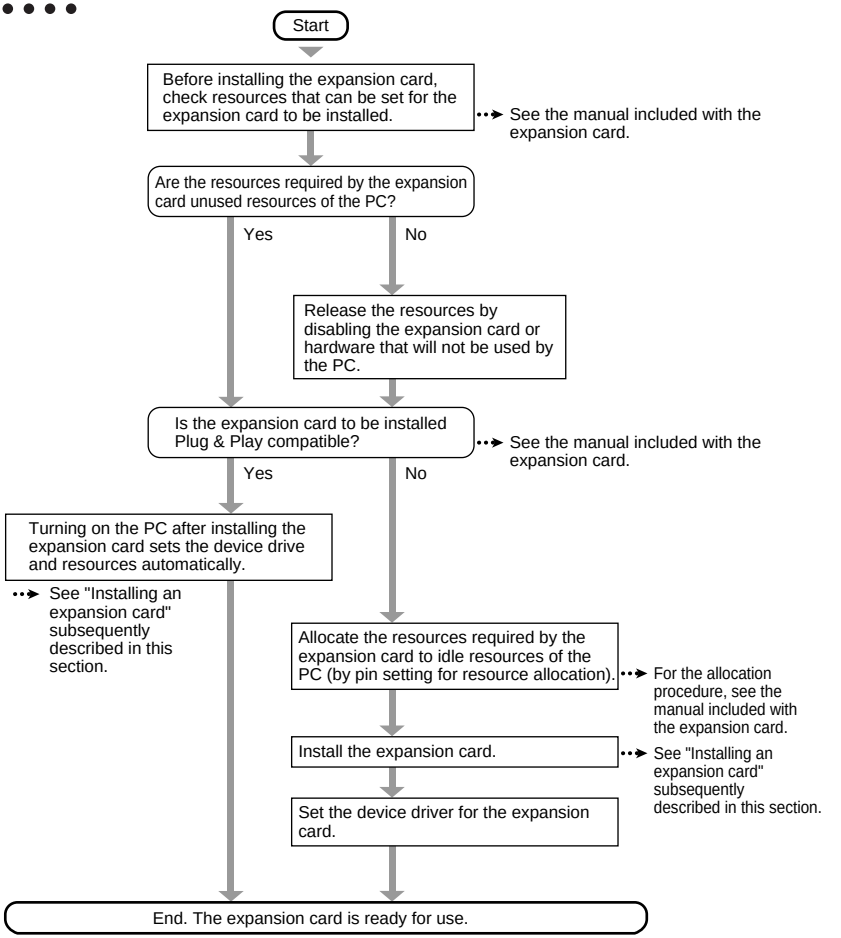
● Plug & Play compatible cards

When Plug & Play compatible cards are installed, resources are set automatically.
Card installation procedures differ depending on the operating system.
Card installation procedure:
For PCs using Windows 95/98,
(•••➤ see "Expansion card installation procedure for a PC using Windows 95/98.")
For PCs using Windows NT,
(•••➤ see "Expansion card installation procedure for a PC using Windows NT.")

● **Plug & Play incompatible cards**

Resources for Plug and Play incompatible cards must be set separately after installation.
Card installation procedures differ depending on the operating system.
For PCs using Windows 95/98, allocate the resources required by the expansion card to unused resources of the PC before installing the card.
For PCs using Windows NT, set the resources with the ICU before installing the card.
For details on the card installation procedure:
For PCs using Windows 95/98,
(•••➤see "Expansion card installation procedure for a PC using Windows 95/98.")
For PCs using Windows NT,
(•••➤see "Expansion card installation procedure for a PC using Windows NT.")

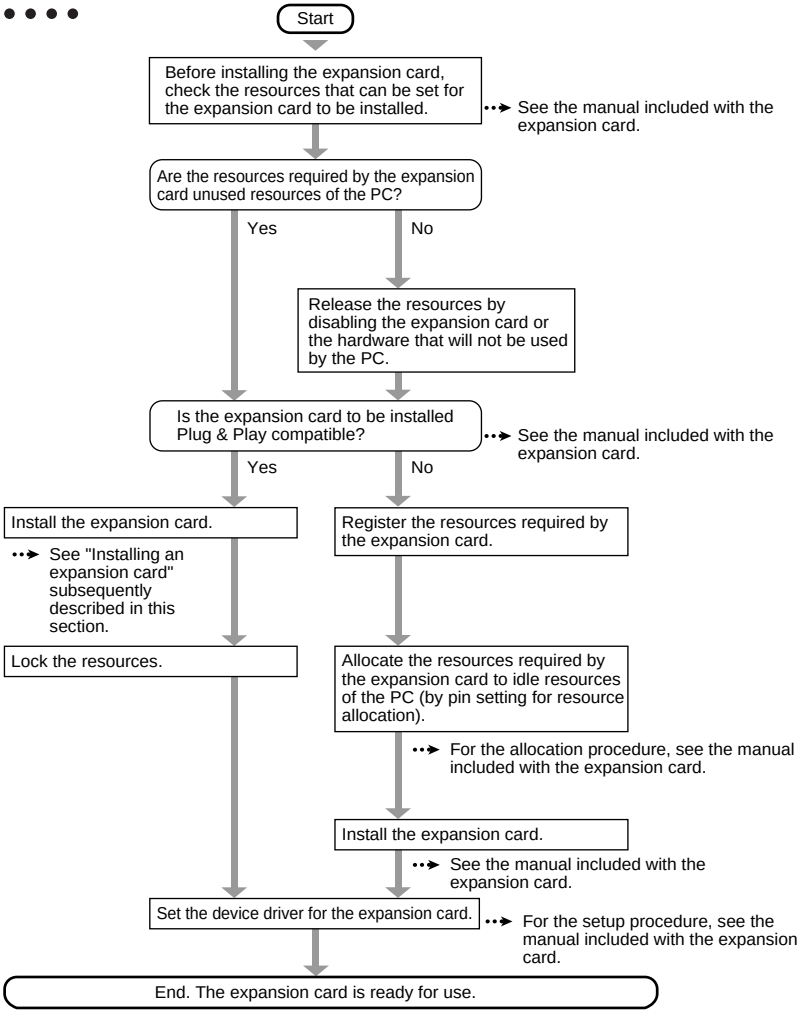
Expansion card installation procedure for a PC using Windows 95/98



Point

- A device driver selected by the Plug & Play function has already been registered with Windows 95/98. However, some device drivers have not been registered with Windows 95/98, depending on the expansion card or peripheral device. In this case, use the floppy disk included with the expansion card containing the device drivers to set up the driver in accordance with the messages.
- Confirm that the device driver has been registered by the device manager before using the expansion card. If not registered, delete the device driver and restart Windows 95/98.

Expansion card installation procedure for a PC using Windows NT



Starting and terminating the ICU (For a PC using Windows NT)

This section explains how to start and terminate the ICU using Windows NT.

1 **If the PC is turned on, turn it off.**

2 **Confirm that the "boot disk" is in write-enable status, insert in the floppy disk drive, then turn on the PC.**
MS-DOS is started.

3 **Confirm that the "Plug and Play kit for MS-DOS(R) ICU R1.21 disk 1" is in write-enable status, replace the disk with the "boot disk", then enter the following character string and press the [Enter] key:**
icu
The ICU is started.

Point

- Do not remove the "Plug and Play kit for MS-DOS(R) ICU R1.21 disk 1" from the floppy disk drive when using the ICU.
- Use the keyboard for all ICU operations.
- Do not set the PCI devices to "Disabled" with the ICU. The devices may not be reset to "Enabled."

4 **Set up the resources.**
When resource setup is terminated, terminate the ICU.

5 **Press [Alt]+[F].**
The pull-down menu appears.

6 **Select the "Exit" command and press the [Enter] key.**

7 **Turn off the PC main unit.**

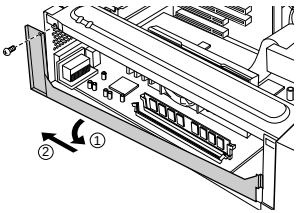
Installing an expansion card

To install a large expansion card, remove the motherboard as shown in step 3. To install a small expansion card, steps 2, 3, 7, and 8 are not required.

1 **Remove the upper cover.**

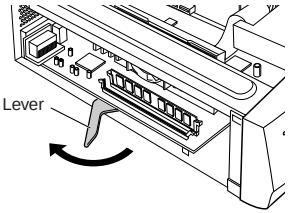
2 **Remove the retaining metal bracket at the side (for installing a large expansion card).**

Remove the screw, open the retaining metal bracket in the direction of arrow ①, and remove the bracket in the direction of arrow ②.



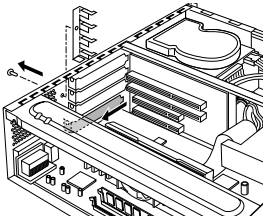
3 **Slide the motherboard (for installing a small expansion card).**

Raise the lever about 90 degrees and pull out the motherboard.



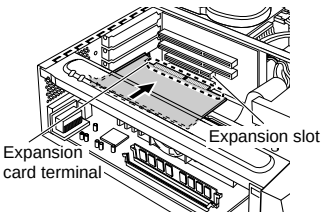
4 **Remove the slot cover.**

Remove the screw to remove the retaining metal bracket, then remove the slot cover to install the expansion card.



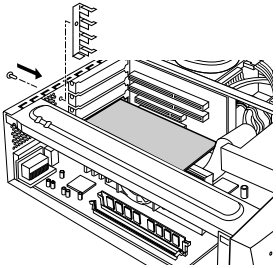
5 **Insert the expansion card into the connector.**

Insert the expansion card firmly into the connector.



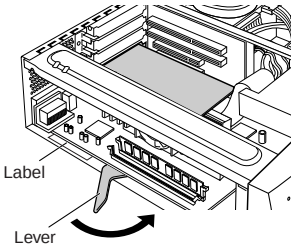
6 **Secure the expansion card with the screw.**

Secure the expansion card with the screw removed in step 4.



7 **Install the motherboard (when a large expansion card has been installed).**

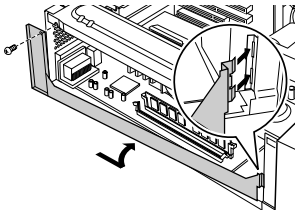
Firmly insert the motherboard and hold it down with the lever.



8 **Install the retaining metal bracket at the side (for installing a large expansion card).**

Insert the hooks of the retaining metal bracket into the groove at the front of the PC main unit, then attach the metal bracket.

Secure the metal bracket with the screw removed in step 2.



9 **Attach the upper cover.**

Point

- Store the removed slot cover.
- To remove the expansion card, reverse the above steps.
- To use the MS-DOS utility included with the option card by adding the option card and starting the utility from the floppy disk (when using the Plug and Play incompatible operating system), set the item in "Detail Menu"- "Plug & Play compatible operating system" to "No." Some option cards may not be recognized depending on the type of option card.
- For display cards (For Windows 95/98 models)

  When using with a video card installed into the PCI slot, delete the "ATI mach64 display driver" before installation as follows.

  1 Click [Start], [Setting], and [Control Panel].

  2 Double-click [Add and Remove the Application].

  The " Add and Remove Programs Property" dialog box appears.

  3 Click [ATI mach64 Display Driver].

  4 Click [Add and Remove]

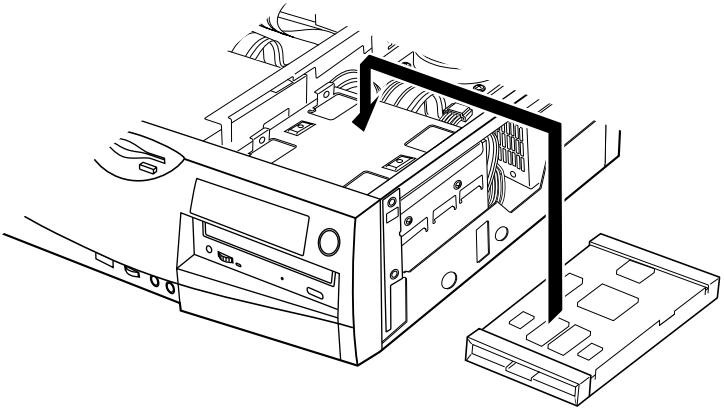
  5 Click [YES].

  The PC is restarted.

  6 Turn off the PC and install the display card.

4 Installing Expansion Bay Options

This section explains how to install expansion bay options such as internal hard disk, magneto-optic disk drive, CD-ROM drive, and floppy disk drive. The power can be supplied from the PC main unit to the expansion bay options, differing from external-type devices; therefore, an outlet is not required. This is also useful in saving space.



Point

- To install expansion bay options, set up the PC, turn off the power, and then install the options.
- The internal hard disk supporting Ultra DMA/33 can be used by setting it to Ultra DMA/33. To connect a hard disk not supported by Ultra DMA/33, be sure to set the DMA to OFF. If the PC is used while the DMA is set to ON by mistake, it may malfunction and data may be lost. Consult with the user's guide that comes with the hard disk, to check whether the additional hard disk supports Ultra DMA/33.
- On the secondary IDE side, Ultra DMA/33 is not supported.
- Use the CD-ROM drive, equipped as a standard feature, without modifying its connection to the secondary IDE. To add a hard disk or magneto-optic disk drive to the secondary IDE, reconnect the hard disk or magneto-optic disk drive to the master connector and reconnect the CD-ROM to the slave connector.

⚠WARNING

Electric shock

- To prevent an electric shock, turn off the PC and connected units and unplug power cords from respective outlets before installing internal options in, or removing them from the expansion bay.

Electric shock

- To prevent an electric shock, fire, and/or malfunction, install only Fujitsu genuine internal options in the PC expansion bay.

⚠CAUTION

Injury

- To prevent personal injury and/or malfunction, remove screws only from the locations specified when installing internal bay options in, or removing them from the expansion bay.

Injury

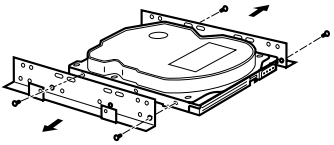
- To prevent injury and/or malfunction, do not touch any components in locations on the PC board that are not mentioned in any of the relevant documents.

Replacing a internal hard disk equipped as standard

This section explains how to replace a standard-equipped internal hard disk with a hard disk of larger capacity.

1 **Set up the jumper switch.**

See the manual accompanying the internal hard disk and make sure that the jumper switch has been set to master, or cable select.



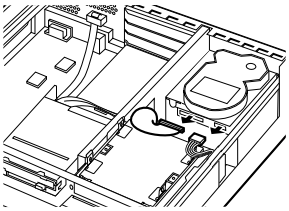
2 **If retaining metal brackets are mounted on both sides of the internal hard disk to be replaced, remove them.**

Remove the screws (4) to remove the retaining metal brackets.

3 **Remove the upper cover.**

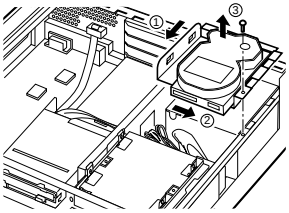
4 **Disconnect the hard disk cables.**

Disconnect the power cord and flat cables connected to the hard disk.



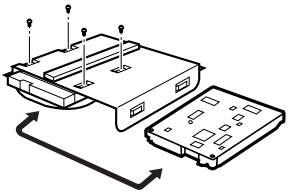
5 **Remove the retaining metal bracket.**

Remove the screw (one), then remove the retaining metal bracket by sliding it in the direction of arrow ①, then arrow ②, and then lift it in the direction of arrow ③.



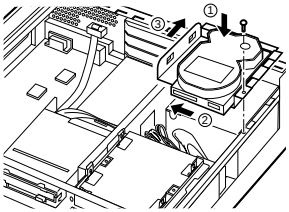
6 **Replace the internal hard disk.**

Remove the four blue screws on the back of the retaining metal bracket, and then remove the standard-equipped hard disk. Then, use the blue screws to install the new hard disk.



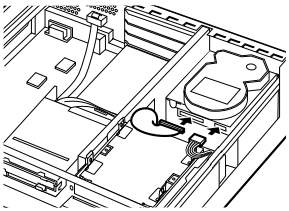
7 **Install the internal hard disk in the PC main unit.**

Install the retaining metal bracket in the original position by lowering it in the direction of arrow ①, sliding it in the direction of arrow ②, and then sliding it again in the direction of arrow ③. Then, secure the retaining metal bracket with the screw that was removed in step 5.



8 **Connect the cables to the hard disk.**

Reconnect the power cord and flat cables that were disconnected in step 4.
Be sure to connect the flat cables to the connector with the MASTER marking.
To prevent malfunction, be sure to place the cables back in their original positions.



9 **Attach the upper cover.**

10 **Use BIOS setup to set the hard disk.**

Set the type of the installed hard disk by BIOS setup (•••➤ see "Primary master/slave" in Section 2, "Main Menu," in Chapter 4, "BIOS Setup").

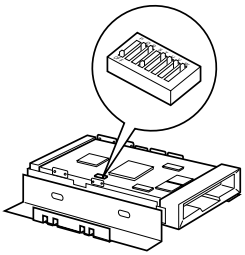
Installing internal options to 3.5-inch expansion bays

This section explains how to install 3.5-inch expansion bay options such as a 3.5-inch internal hard disk, magneto-optic disk drive, and 3.5-inch floppy disk drive. A magneto-optic disk drive is used below in an installation example.

1 **Set the internal option.**

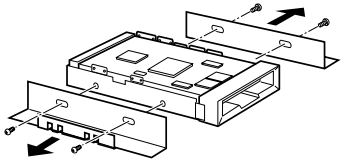
See the manual accompanying the internal options to set the following items.

- To install an IDE-standard internal option: Set the master, slave, and cable selection.
- To install a SCSI interface internal option: Set the SCSI ID.



2 **If retaining metal brackets are mounted on both sides of the internal hard disk to be installed, remove them.**

Remove the screws (four) to remove the retaining metal brackets.



3 **Remove the upper cover.**

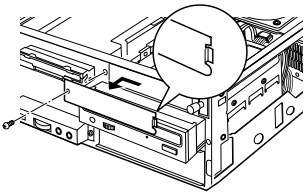
4 **Remove the front panel.**

The front panel does not need to be removed when installing a hard disk.

5 **Remove the blank panel.**

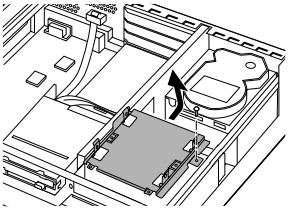
Remove the screw (one) to remove the blank panel.

The blank panel does not need to be removed when installing a hard disk.



6 **Remove the retaining metal bracket from the PC main unit.**

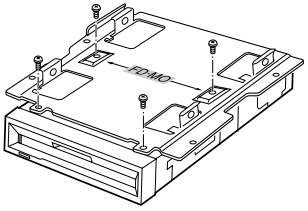
Slide the retaining metal bracket toward the rear side of the PC main unit, and then lift and remove the retaining metal bracket.



7 **Install a internal option in the retaining metal bracket.**

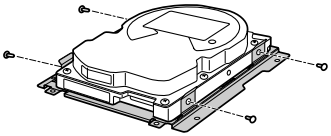
Secure the internal option with the four screws that were removed in step 2.

- To install a magneto-optic disk drive:
  Install the magneto-optic disk drive in position ① in the figure.



①

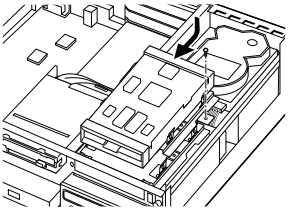
- To install a hard disk:
  Install the hard disk drive in position ② in the figure.Use the blue screws accompanying the internal options to secure the hard disk.



②

8 **Install the internal option in the PC main unit.**

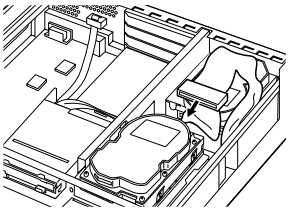
Slide the internal option toward the front side and install it.

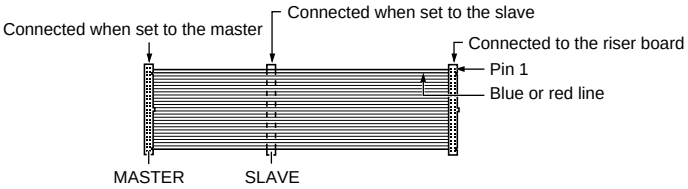


9 Connect the flat cable.

Connect the flat cable that is appropriate for the internal option to be installed.

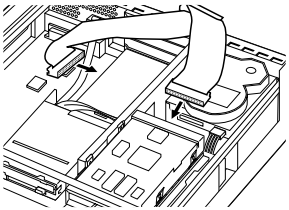
- To install two IDE-standard internal options to the IDE secondary cable (if one of the options is a hard disk), install the hard disk at the master side.





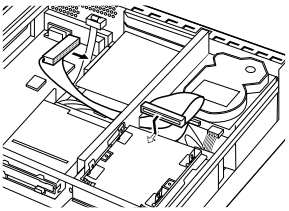
- To install a SCSI interface internal option:

  Connect the flat cable to the SCSI card in the expansion slot.



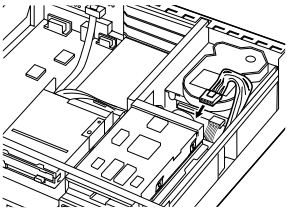
- To install a floppy disk drive:

  Connect the flat cable to the expansion card of the internal floppy disk drive in the expansion slot.



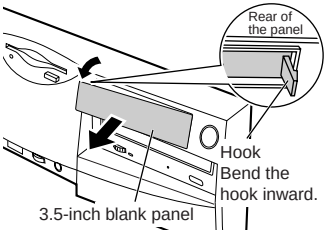
10 Connect the power cord.

Connect the unused power cord to the connector of the installed internal option.



11 **Attach the front panel.**

Remove the blank panel for a 3.5-inch expansion bay from the rear side of the front panel as required in the arrow direction shown in the figure.



12 **Attach the upper cover.**

13 **Use BIOS setup to configure the internal option.**

To configure the installed IDE-standard internal option, use the main menu of BIOS setup (•••➤ see Section 2, "Main Menu," in Chapter 4, "BIOS Setup").

Point

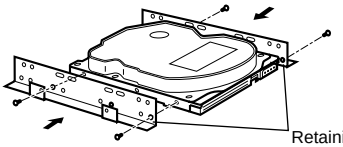
To remove the internal option, reverse the above-cited procedure.

Installing internal options to 5-inch expansion bays

This section explains how to install 5-inch expansion bay options such as CD-ROM drive and 5-inch floppy disk drive. A CD-ROM drive is used below in an example of installation. Up to two 5-inch expansion bay options can be installed in your PC.

Point

The retaining metal bracket is required for installing a 3.5-inch hard disk or magneto-optic disk drive.



1 Configure the internal option.

See the manual accompanying the internal options to configure the following items.

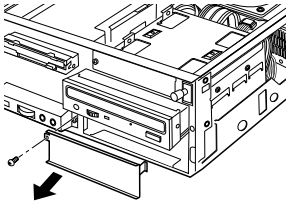
- To install an IDE-standard internal option:
  Set the master, slave, and cable select.
- To install a SCSI interface internal option:
  Configure the SCSI ID.

2 Remove the upper cover.

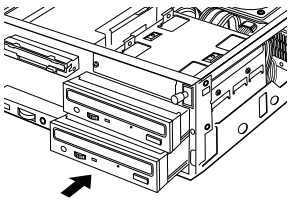
3 Remove the front panel.

4 Remove the blank panel (for installing the internal option to the lower 5-inch expansion bay).

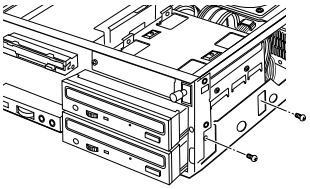
Remove a screw to remove the blank panel.



5 Insert the internal option from the front side of the PC main unit



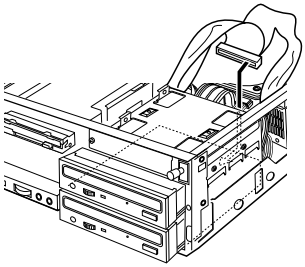
6 **Secure the internal option with two screws.**

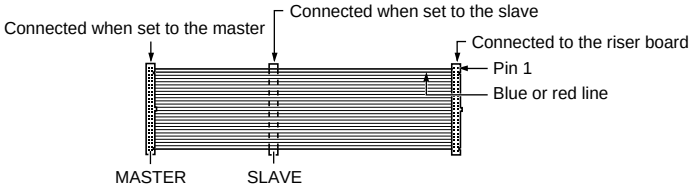


7 **Connect the flat cable.**

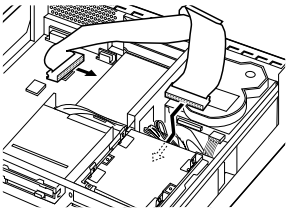
Connect the flat cable appropriate for the internal option to be installed.

- To install an IDE-standard internal option, connect the flat cable to the master or slave connector according to the setting of the internal option.
  If a magneto-optic disk has been installed by a custom-made specification, connect the magneto-optic disk drive to the master connector and the other internal option to the slave connector. However, to install a hard disk, connect the hard disk to the master connector and connect the magneto-optic disk drive to the slave connector.

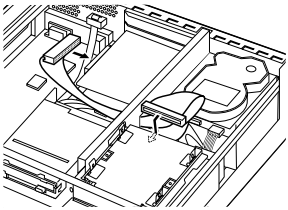




- To install a SCSI interface internal option:
  Connect the flat cable to the SCSI card in the expansion slot.

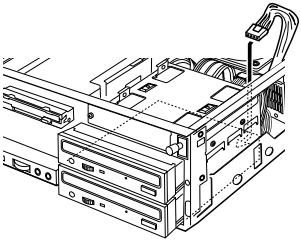


- To install a floppy disk drive:
  Connect the flat cable to the expansion card of the internal floppy disk drive in the expansion slot.



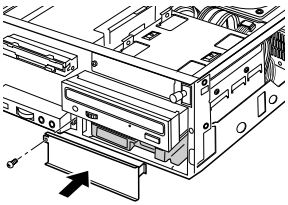
8 **Connect the power cord.**

Connect the unused power cord to the connector of the installed internal option.



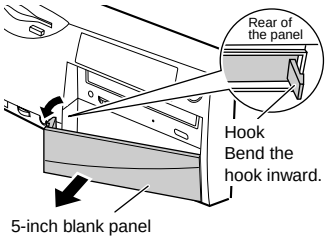
9 **Install the blank panel (for an option that does not require a medium be mounted/ dismounted)**

Install the blank panel with the screw that were removed in step 4.



10 **Attach the front panel.**

Install or remove the blank panel as required.



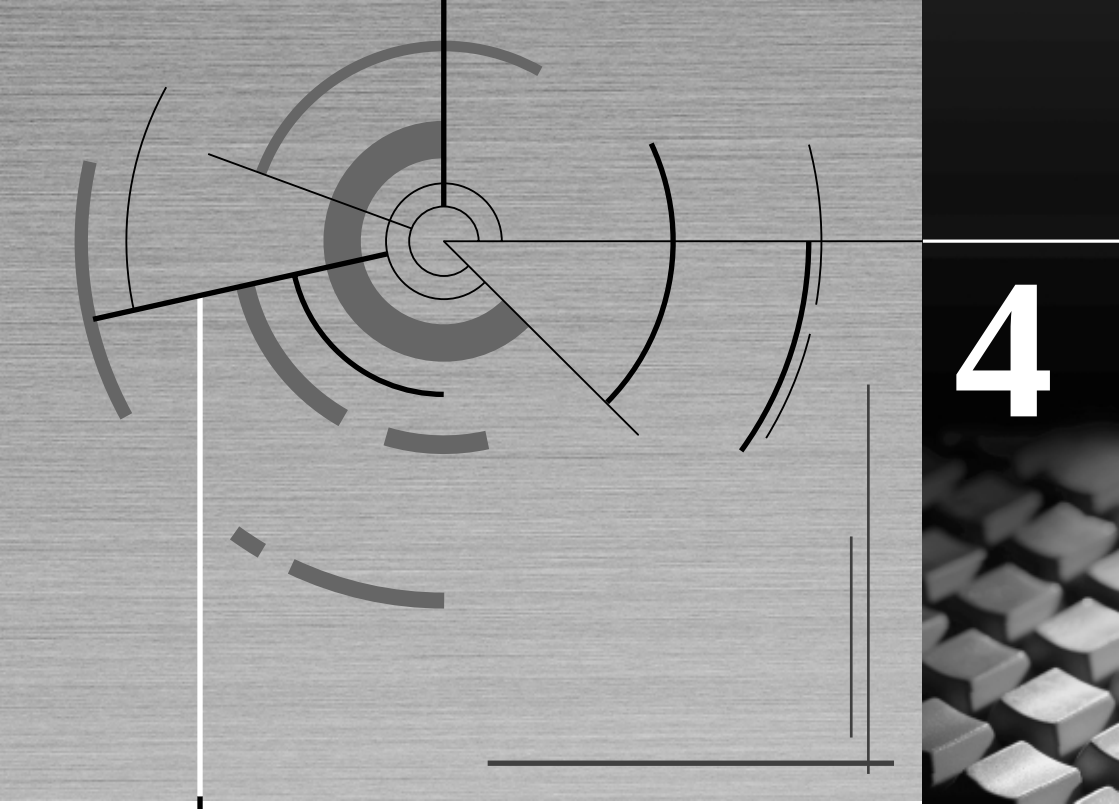
Point

To install a 3.5-inch floppy disk drive or magneto-optic disk drive, install the accessory expansion bay panel to the front panel by screws.

11 **Attach the upper cover.**

12 **Use BIOS setup to configure the internal option.**

To configure the IDE-standard installed internal option, use the main menu of BIOS setup (•••➤see Section 2, "Main Menu," in Chapter 4, "BIOS Setup").



Chapter 4 BIOS Setup

This chapter describes how to perform BIOS setup when installing an optional product or setting power savings mode.

1 Preface

What is BIOS setup?

BIOS setup is a program that helps the user set up a hardware environment, including memory, hard disks, and floppy disk drives.
Minimum setup has already been installed on this personal computer when you purchase it.
BIOS must be set up under the following circumstances:

- When a storage unit, such as a floppy disk drive or a built-in hard disk (IDE), is mounted or removed
- When a password permitting specific users to access the PC is set
- When memory or serial ports are set up
- When the power savings mode is released or changed (to put in standby mode when power is on but PC is not used)
- When a message requesting BIOS setup is displayed
- When another Operating System (OS) is used

Point

Contents selected in BIOS setup are stored in the PC internal memory called CMOS RAM, which stores recorded contents using batteries. If an error message indicating BIOS setup is displayed when the PC is turned on or rebooted even if BIOS setup is completed correctly, the setup contents will not be stored in this CMOS RAM if the batteries are dead.

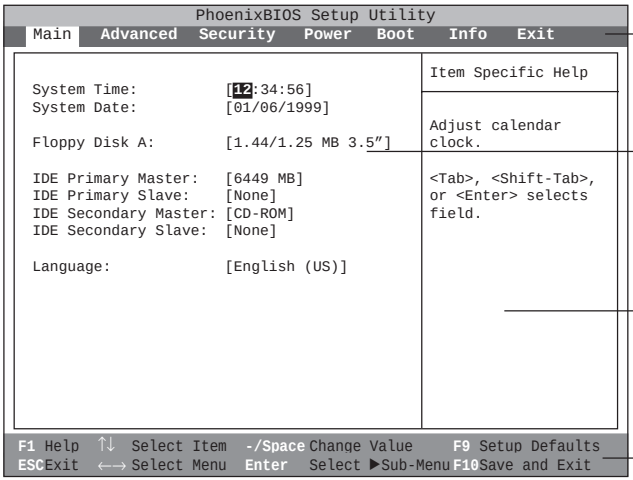
Starting BIOS setup

1 **Exit all applications and save data.**

2 - **For Windows 95/98**
Click on Start, then on Exit Windows.
- **For Windows NT**
Click on Start, then on Shutdown.

3 - **For Windows 95/98**
Select Reboot and click on OK.
- **For Windows NT**
Select Reboot the Computer and click on Yes.
The computer is rebooted.

4 **A message "Press <F2 to enter SETUP" is displayed on the screen.**
Press the F2 key to display the BIOS Setup screen.



Menu bar
Lists seven menu items.

Setup field
Lists items and their setup values for each menu.

Help field
Displays an explanation of items selected by the cursor.

Key list
Lists keys available during setup.

Key functions

The table below lists the functions of the keys used for BIOS setup.

F1 key	Used to display the overall explanation of BIOS setup. To proceed to the next page, press the PageDown key. To return to the setup screen, press the Esc key.
← and → keys	Used to switch between menus.
↑ and ↓ keys	Used to move the cursor to an item to be set up.
- and Space keys	Used to select a desired setup value.
F9 key	Used to return all setup values to the PC standard values.
Esc key	Used to display the Exit menu. If the screen displays a submenu, the previous screen is returned.
Enter key	Used to display submenus of items marked ▶. When the Esc key is pressed while a submenu is displayed, the screen returns to its menu.
F10 key	Used to restore the current setup values and to end the setup operation.
Tab key	Used to move the cursor between hours, minutes, and seconds while the system time is set up.

Exiting BIOS setup

1 **Press ← or → to select the Exit menu.**

2 **For existing BIOS setup by saving setup values**

→ **Move the cursor to "Save Change & Exit" and press the Enter key.**

For exiting BIOS setup without savings setup values

→ **Move the cursor to "Exit Without Saving Changes" and press the Enter key.**

The BIOS setup utility exits and the computer is rebooted. Menus

The BIOS setup utility screen includes the following menus, under which setup items are listed. For details on menus and setup items, see the following sections.

Menus

- **Main menu**
  Used to set up the date and time and drives.

- **Advanced menu**
  Used to set up port addresses.

- **Security menu**
  Used to set up the computer so as to be accessible to specific users.

- **Power menu**
  Used to set up power savings mode.

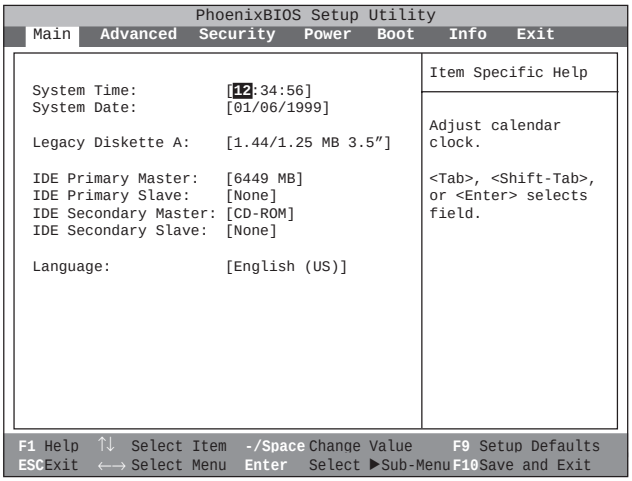
- **Boot menu**
  Used to set up the priority of boot drives.

- **Info menu**
  Used to display the hardware configuration of the computer. This menu is information only.

- **Exit menu**
  Used to exit the BIOS setup utility.

2 Main Menu

The Main Menu is used to setup the date and time and drives.
Select the ← or → key to select [Main] and display the Main menu



Details on setup items

● System Time

Set the time. Enter a numeric value in the order of "hours : minutes : seconds" in the 24-hour system.
- 00:00:00 to 23:59:59

● System Date

Set the date. Enter a numeric value.

Point

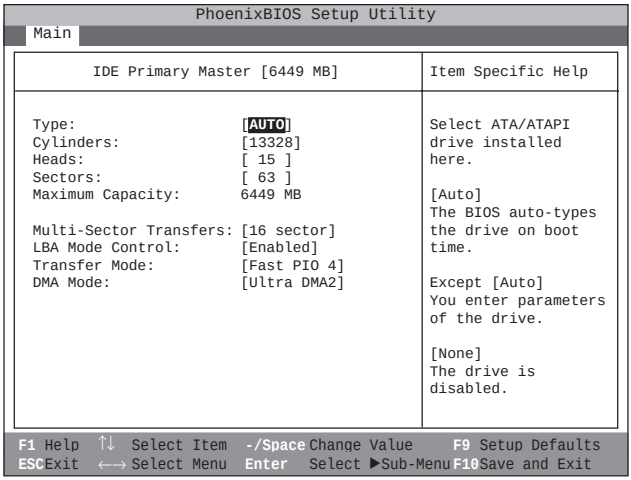
System Time and System Date do not have to be entered each time the PC is turned on. To modify an entered value, press the Backspace key and enter the value.

● Floppy Disk A

Set the recording density and size of the floppy disk drive used.
- 360 KB 5.25", 1.2 MB 5.25", 720 KB 3.5", and 1.44/1.2 MB 3.5" (Initial value), Disabled

● IDE Primary Master/Save, IDE Secondary Master/Slave Menu

Using submenus, set the type of hard disk (master or slave) mounted on the primary IDE connector and secondary IDE connector as well as the size and the number of cylinders). Move the cursor to a desired item and press the Enter key to display the selected submenu.



– Type

Set the type of IDE device. A value other than [Auto] requests the user to enter [Cylinders], [Heads], and [Sectors].

- Auto (Initial value)
  The computer automatically sets the type of IDE device. Select this item when the user-skip IDE device is setup.
- None
  Select when no IDE device is used.
- Hard Disk
  Select for setting details on the hard disk drive.
- CD-ROM
  Select when a CD-ROM drive is connected.
- LS-120
  Select when a super disk is connected.
- Other ATAPI
  Select when any other ATAPI device is connected.

Point

- To change the type, select with the space key.
- Usually, select [Auto]. If any other value is selected, set a correct value supported by the connected device, otherwise the computer may not access the device correctly.

For details, consult the manual included with the device.

– Maximum Capacity

This item displays the maximum capacity of the hard disk drive only when Type is [Auto] and [Hard Disk] is selected (if a hard disk unit is mounted).

– Multi-Sector Transfers

This item displays the contents detected by the PC when 'Type' is [Auto]. If 'Type' is a value other than [Auto] and [None], set the number of sectors that can be transferred in a single operation.

A larger number of sectors specified will allow greater disk access.

- Disabled (Initial value)
  The computer transfers data sector by sector. Select this item when the connected disk does not support multi-sector transfer.
- 2, 4, 8, 16 Sectors
  Select the number of sectors to transfer in a single operation.

– LBA MODE Control

This item sets whether LBA (Logical Block Addressing allowing access using logical serial numbers) is enabled. The best mode is selected and displayed automatically when 'Type' is [Auto] or [Hard Disk] (only when a hard disk unit is mounted).

- Disabled (Initial value)
  LBA mode is disabled
- Enabled
  LBA mode is enabled.

Point

- When LBA mode is enabled, the connected hard disk must support LBA.
- If LBA MODE Control is changed after the hard disk is formatted, the computer may not access the hard disk correctly. Do not change this item after the hard disk is formatted.

– Transfer Mode

This item sets data transfer mode (fast PIO) between device hosts. The best mode is selected and displayed when 'Type' is [Auto]. When something other than [Auto] or [None] as 'Type,' is selected, the user can select a desired transfer mode.

- Fast PIO 0/1/2/3/4 (Initial value: fast PIO 0)
  Select a desired data transfer mode. A larger number indicates a higher transfer rate.

Point

When a PIO transfer mode other than Fast PIO 0 is selected, the connected hard disk must support the mode selected.

– DMA Mode

This item sets the data transfer mode between device hosts, such as multiword DMA, ultra DMA/33). The best mode is selected and displayed automatically when 'Type' is [Auto]. If 'Type' is other than [Auto] and [None], the user can select a desired transfer mode.

- Disabled (Initial value)
  DMA transfer is disabled.
- Multiword DMA 1/2, Ultra DMA 0/1/2
  Select a desired multiword DMA or ultra DMA/33 transfer mode. A larger number indicates a higher transfer rate.

● Language

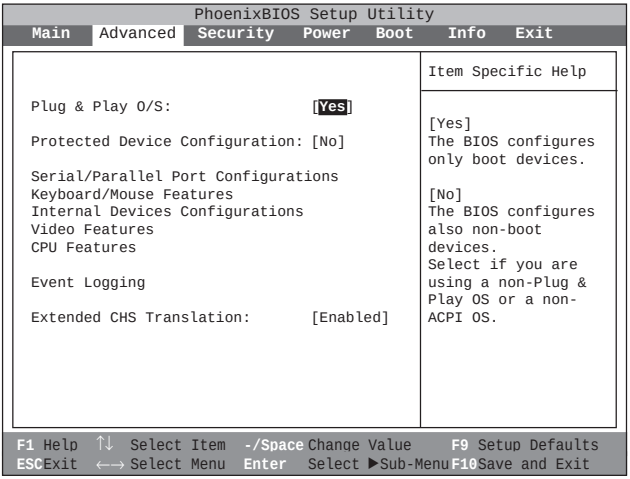
Select the language used for BIOS setup.

– English (US)
The BIOS setup utility is displayed in English.

– Japanese (JP) (Initial value)
The BIOS setup utility is displayed in Japanese.

3 Detail Menu

The Detail menu is used to set up devices.
Select Detail with the ← or → key to display the Detail menu.



Details on setup items

● Plug & Play OS

This item sets whether the OS used supports Plug & Play, such as Windows 95/98.
– Yes (Initial value for Windows NT model)
Select when using an OS not supporting Plug & Play.
– No (Initial value for windows 95/98 model)
Select when using an OS supporting Plug & Play.

Point

When using an OS other than Windows95/98 or when multi-booting both Window s95/98 and Windows NT, select [No].

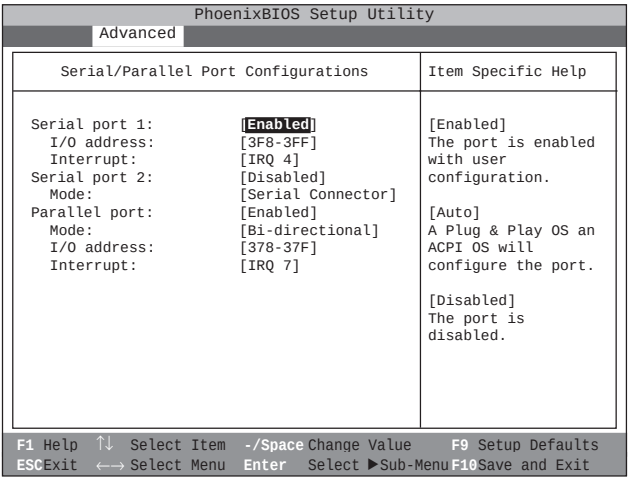
● Protected Device Configurations

This item sets whether to protect the device configurations from the OS Plug & Play function.
– No (Initial value)
The device configurations are not protected from the Plug & Play function.
– Yes
The device configurations are protected from the Plug & Play function.

● Serial/Parallel Port Configurations

This item sets the I/O address of the serial and parallel ports and has submenus.

Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Serial Port 1

This item sets the I/O port address and interrupt request of serial port 1.

- Disabled
  The serial port is disabled and resources are freed.
- Enabled (Initial value)
  Set the I/O port address and the interrupt request of the serial port.
- Auto
  The personal computer automatically assigns an I/O port address and an interrupt request.

Point

- When 'Serial Port 1' is [Disabled], the port is not transparent to devices controlled by the Windows 95/98 APM device manager.
- To disable the serial port on Windows 98 ACPI, use the Windows 98 ACPI device manager.

I/O Address

This item appears when 'Serial Port 1' is [Enabled]. Set the I/O address of serial port 1.

- 3F8 to 3FF, 2F8 to 2FF,3E8 to 3EF, and 2E8 to 2EF (Initial value: 3F8 to 3FF)

Interrupt

This item appears when 'Serial Port 1' is [Enabled]. Set the interrupt request of serial port 1.

- IRQ3, IRQ4, IRQ10, IRQ11 (Initial value: IRQ4)

– Serial Port 2

This item sets the I/O port address and interrupt request of serial port 2.

- Disabled
  Serial port 2 is disabled and resources are freed.
- Enabled (Initial value)
  Set the I/O port address and interrupt request of serial port 2.
- Auto
  The personal computer automatically assigns an I/O port address and an interrupt request.

Point

- When 'Serial port 2' is set to Disabled, serial port 2 is transparent to devices controlled by the Windows 95/98 (APM mode) device manager.
- Use the Windows 98 device manager (ACPI mode) to disable serial port 2 on Windows 98 (ACPI mode).

I/O Address

This item appears when 'Serial Port 2' is [Enabled]. Set the I/O address of serial port 1.

- 3F8 to 3FF, 2F8 to 2FF,3E8 to 3EF, and 2E8 to 2EF (Initial value: 3F8 to 3FF)

Interrupt

This item appears when 'Serial Port 2' is [Enabled]. Set the interrupt request of serial port 1.

- IRQ3, IRQ4, IRQ10 (Initial value: IRQ3)

Point

Some combinations of I/O address and interrupt requests are not available.

– Parallel Port

This item sets the I/O port address and interrupt request of a parallel port.

- Disabled
  The parallel port is disabled and resources are freed.
- Enabled (Initial value)
  Set the I/O port address and interrupt request of the parallel port.
- Auto
  The computer automatically assigns an I/O port address and an interrupt request.

Point

- When 'Parallel Port' is [Disabled], the port is not transparent to devices controlled by the Windows 95/98 device manager.
- When 'Parallel Port' is [Auto], connected printers may not operate correctly, in which case set [Enabled].

Mode

This item appears when 'Parallel Port' is [Enabled] or [Auto]. Set the operating mode of the parallel port.

- Output only
  Select when connecting a peripheral unit using output mode only.
- Bi-directional (Initial value)
  Select when connecting a peripheral unit using bi-directional mode.
- EPP
  Select when connecting an EPP standard peripheral unit.
- ECP
  Select when connecting an ECP standard peripheral unit.

I/O Address

This item appears when 'Parallel Port' is [Enabled]. Set the I/O address of the parallel port.

- 378 to 37F, 278 to 27F, 3BC to 3BF (Initial value: 378 to 37F)

Interrupt

This item appears when 'Parallel Port' is [Enabled]. Set the interrupt request of the parallel port.

- IRQ5, IRQ7 (Initial value: IRQ7)

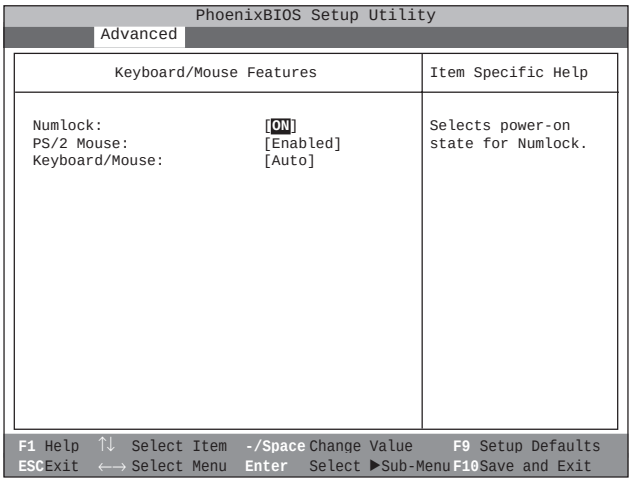
DMA Channel

This item appears when 'Mode' is [ECP]. Set a DMA channel used to connect an ECP standard peripheral unit.

- DMA 1, DMA 3 (Initial value: DMA 1)

● Keyboard/Mouse Features

This submenu is used to set up the keyboard and mouse.
Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Numlock

This item sets whether the keyboard tenkey pad is set to Numlock mode at boot or reboot. In Numlock mode, the user can enter numeric values from the tenkey pad.

- On (Initiail value)

The keyboard is set to Numlock mode.

- Off

The keyboard is not set to Numlock mode.

Point

In some Oss, this has to be set on the OS side.

– PS/2 Mouse

This item enables the PS/2 mouse controller.

- Disabled

The PS/2 mouse controller is disabled and resources are freed.

- Enabled

The PS/2 mouse controller is enabled.

Point

- When 'PS/2 Mouse' is [Disabled], the PS/2 mouse is not transparent to devices controlled by the Windows 95/98 (APM mode) device manager. On Windows 98 (ACPI mode), An exclamation mark (!) is added to [PS/2 Compatible Mouse Port].

– USB Legacy Emulation

This item set whether the USB keyboard and mouse are usable on OSs not supporting USB, such as Windows NT.

- Disabled
  The USB keyboard and mouse cannot be used on OSs not supporting USB.
- Auto (initial value)
  If the PC is booted with either a USB keyboard or mouse connected, the USB keyboard and mouse can be used on operating systems that do not support USB.
- Enabled
  The USB keyboard and mouse can be used on OSs not supporting USB.

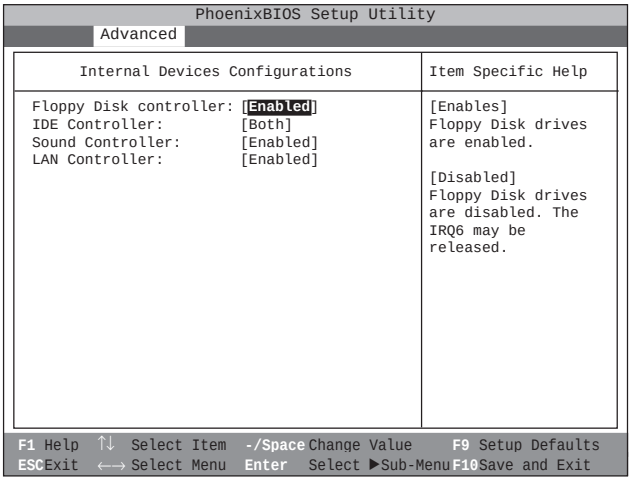
Point

When USB keyboard and mouse are used with an OS that does not support USB, such as Windows NT 4.0, this PC may not operate at full performance. In this case, use PS/2 keyboard by specifying [Disabled] to “USB keyboard/mouse.

● Internal Devices Configurations Setting

This submenu is used to set up built-in devices.

Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Floppy Disk Controller

This item sets whether the floppy disk controller is enabled.

- Disabled
  The floppy disk controller is disabled and resources are freed.
- Enabled (Initial value)
  The floppy disk controller is enabled.

– IDE Controller

This item sets whether the IDE interface is enabled.

- Disabled
  The IDE interface is disabled and resources are freed. All devices connected to the IDE interface are disabled.
- Primary
  The primary IDE interface is enabled. The resources of the secondary ID interface are freed and all devices connected to the secondary IDE interface are disabled.
- Both (Initial value)
  Both the primary/secondary IDE interfaces are enabled.

– Sound Controller

This item sets whether the built-in sound bus is enabled.

- Disabled
  The built-in sound bus is disabled and resources are freed.
- Enabled (Initial value)
  The built-in sound bus is enabled.

– LAN Controller

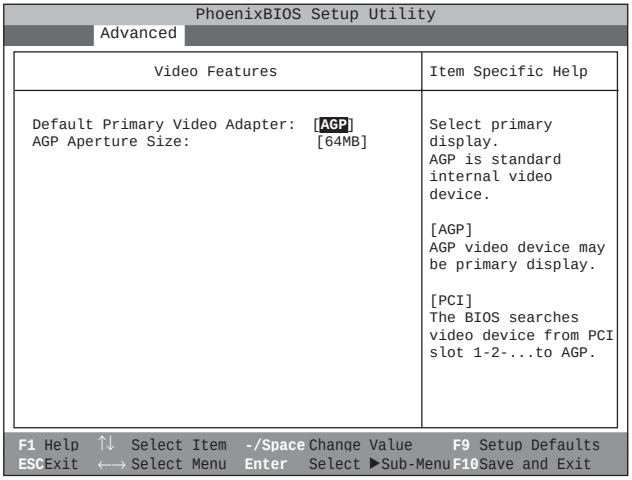
This item sets whether the LAN adapter on the mother board is enabled.

- Disabled
  The LAN adapter is disabled and resources are freed.
- Enabled (Initial value)
  The LAN adapter is enabled.

● Video Features

This submenu is used to set up the display.

Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Default Primary Video Adapter

This item sets which AGP adapter is used, the adapter on the PCI card or the adapter on the mother board, when another PCI video card is mounted.

- PCI
  The PCI video adapter card is used when another PCI video card is mounted, otherwise the AGP adapter on the mother board is used.
- AGP (Initial value)
  The AGP adapter on the mother board is used.

– AGP Aperture Size

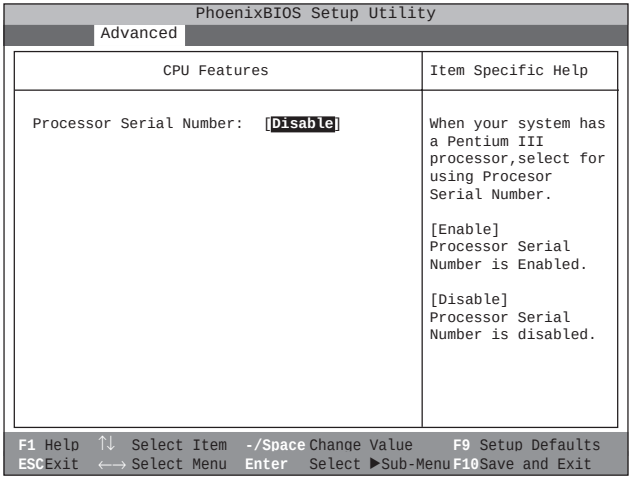
This item sets the aperture size used by the AGP video controller.

- 8MB, 16MB, 32MB, 64MB, 128MB, 256MB (Initial value: 64MB)

● CPU Features

This submenu is used to set up the CPU.

Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Processor Serial Number

This item enables or disables the processor serial number function of the Intel Pentium III processor.

- Enabled
  The processor serial number function is enabled.
- Disabled (initial value)
  The processor serial number function is disabled

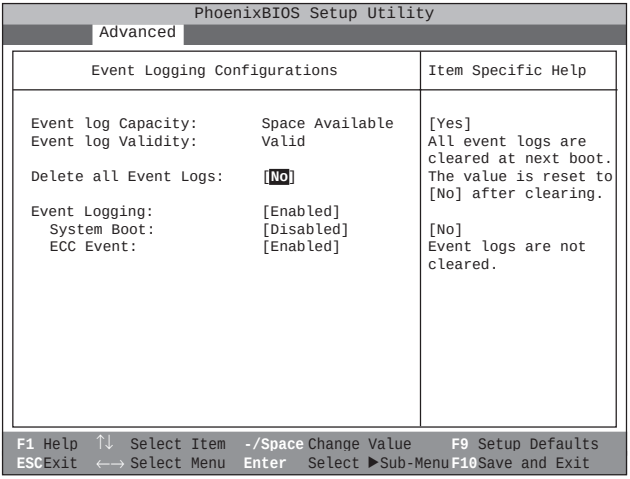
Point

- To use the Intel processor serial number control utility, set 'Processor Serial Nubmer' to [Enabled], otherwise this function connot be enabled on utilities such as the Intel processor serial number control utility.
- The Intel processor serial number control utility is enabled on Windows 98 and Windows NT4.0 only. On other OSs, enable or disable the function in this item.

● Event Logging Configurations

This submenu is used to set up event logs.

Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Event Log Capacity

This item sets whether event logs can be saved.

- Space Available
  Event logs can be saved (up to 255 logs).
- Full
  No more event logs can be saved. The area is full.

– Event Log Validity

This item displays whether the event log data is valid.

- Valid
  Event log data is valid.
- Invalid
  Event log data is invalid. Data may be destroyed.

– Delete all Event Logs

This item sets whether all event logs are deleted at reboot.

- No (Initial value)
  Event logs are not deleted.
- Yes
  Event logs are deleted. Clear all Event Logs' is [No] at reboot.

– Event Logging

This item sets whether events are logged when they are generated.

- Disabled
  Event logging is disabled.
- Enabled (Initial value)
  Event logging is enabled.

System Boot

This item sets whether system boot events are logged.

- Disabled (Initial value)
  System boot events are not logged.
- Enabled
  System boot events are logged.

ECC event

This item sets whether ECC events are logged.

- Disabled
  ECC events are not logged.
- Enabled (Initial value)
  ECC events are logged.

Extended CHS Conversion

This item enables or disables the use of extended CHS conversion for access to IDE hard disk drives.

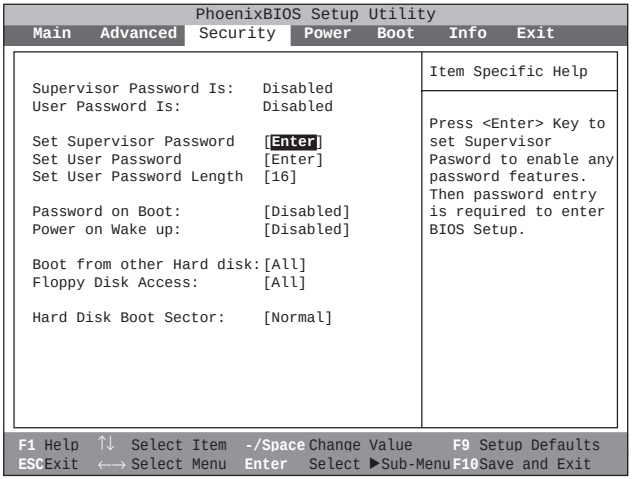
- Disabled
  The use of extended CHS conversion is disabled. Some operating systems require this setting.
- Enabled (Initial value)
  The use of extended CHS conversion is enabled. Select this setting for Windows 95, Windows 98, and Windows NT.

Point

Make sure that this item is correctly set for the operating system that is used on the PC before formatting hard disk drives. Changing the setting after formatting is finished does not ensure correct access to the hard disk drive.

4 Security Menu

The Security menu is used to set up the PC such that it is accessible to specific users only. Select Security with the ← or → key to display the Security menu.



Details on setup items

● Supervisor Password

This item displays the status of the supervisor password.

- Clear
  No password is set.
- Set
  A password is set.
- Disabled
  The password jumper is set to Disabled and passwords are disabled.

● User Password

This item displays the status of user passwords.

- Clear
  No password is set.
- Set
  A password is set.
- Disabled
  The password jumper is set to Disabled and passwords are disabled.

● **Set Supervisor Password**

Press the Enter key to set the entered supervisor password.

Point

- When 'Set Supervisor Password' is set, the supervisor can manage user access to the BIOS setup utility.
- After setting a password for the supervisor, if [Disabled] is specified for “Password on Booting” and [Supervisor Only] is specified for “Floppy Disk Access], all users are considered general users and are not permitted to access the floppy disk drive.

● **Set User Password**

This item appears when 'Set Supervisor Password' is set. Press the Enter key to set a user password.

Point

When 'Set User Password' is set, the user is requested to enter a password when accessing the BIOS setup utility or booting the system.If the user enters a wrong password three times, the message "System is disabled" is displayed and the PC does not respond to keyboard entry. In such a case, press the Power switch to turn the PC off. After waiting at least ten seconds, turn the power on again and enter the correct password.

● **Set User Password Length**

This item appears when 'Supervisor Password' is set. Set the shortest possible password in 'Set User Password.'

- 1 to 16 (Initial value: 16)

Point

This setting is valid only when the user password is used to enter the setup. When the supervisor password is used, the user password can be set with fewer characters than the minimum requirement.

● **Password on Boot**

This item appears when 'Supervisor Password' is set. Set whether the computer requests the user to enter a password when it is booted.

- Disabled (Initial value)
  No password is requested at boot.
- First Boot
  The user is requested to enter a password at the initial OS boot.
- Every Boot
  The user is requested to enter a password at every OS boot.

● **Password on Wake up**

This item appears when 'Supervisor Password' is set.

- Disabled (Initial value)
  No password is requested at automatic wakeup.
- Enabled
  The user is requested to enter a password at automatic wakeup. The keyboard and mouse are disabled until the user enters a password.

Point

- This function is not available when the USB keyboard/mouse is used.
- When the indicators on the keyboard alternately turn on a light although the OS is active, enter the password.

● **Boot from Devices Other Than Hard Disk Drives**

This item appears when 'Supervisor Password' has been set. Set the person who is entitled to boot the OS from a device other than a hard disk drive.

- All (Initial value)
  Any user can boot the OS from a device other than a hard disk drive.
- Supervisory Only
  If 'Password on Boot' has been set, only the supervisor can boot the OS from a device other than a hard disk drive. If 'Password on Boot' is not set or the PC is in automatic wakeup mode, users cannot boot the OS from a device other than a hard disk drive.

● **Floppy Disk Access**

This item appears when 'Supervisor Password' is set. Set the right to use floppy disk drives.

- All (Initial value)
  All users can use floppy disk drives.
- Supervisor
  Only the supervisor can use floppy disk drives when 'Password on Boot' is set.
  If 'Password on Boot' is not set or at automatic wakeup, all users cannot use floppy disk drives.

Point

This item will not operate properly on OSs not using BIOS to access floppy disk drives, such as Windows NT.

● **Hard Disk Boot Sector**

This item sets whether the boot sector on the hard disk is write-protected in order to protect the sector against virus .

- Normal (Initial value)
  The boot sector is not write-protected.
- Write protected
  The boot sector is write-protected.

Point

- When installing an OS, select [Normal].
- This item may not operate properly on OSs not using BIOS to access floppy disk drives, such as Windows NT.

Setting a password

1 **Move the cursor to 'Set Supervisor Password' or 'Set User Password' and press the Enter key.**

A password entry window appears.

2 **Enter a password not exceeding 16 digits.**

The password can contain alphanumeric characters.
The entered characters are not displayed and "■" appears.
The minimum length of user passwords can be set in 'Set User Password Length.'

3 **After entering a password, press the Enter key.**

The cursor moves to the "Enter New Password" field and the utility requests that the password be entered again.

4 **Enter the same password as in Step 2 again and press the Enter key.**

The Notice window appears.

5 Press the Enter key to complete the password setup.
If the reentered password is incorrect, a Warning! window appears. Press the Enter key to retry from Step 2.
To cancel password setup, press the Esc key.

Point

If the user starts setup operation by entering only a user password for a PC that requires the input of both supervisor and user passwords, the setup items will be limited.

6 Select 'Exit Save Changes' on the Exit menu and press the Enter key.
The Setup Confirmation window then appears.

7 Select 'Yes' and press the Enter key.
The settings are saved.

8 Press the Power switch to turn off the power.

Point

Turn off the power while 'BIOS Setup' is displayed. If the power is turned off after BIOS Setup has ended, password settings are invalid.

9 Set the jumper switch of the personal computer.
Change jumper switch JP5 from 2-3 to 1-2 on the computer. (For the location of jumper switch JP5, see the following page.)

⚠WARNING

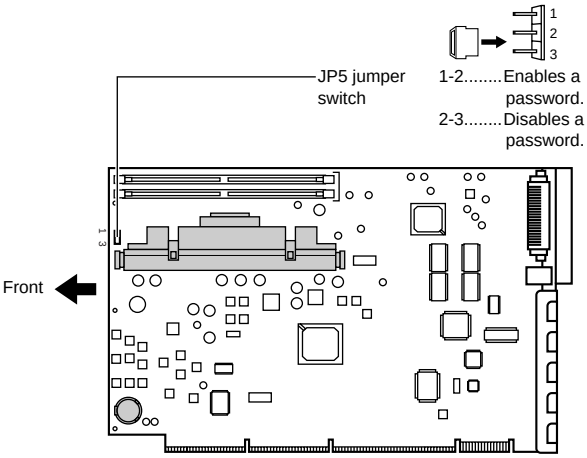
Electric shock

- To prevent electric shock, before changing jumper switches, turn off the computer main and peripheral units and unplug the power cable.

⚠CAUTION

Injury

- The PC is very hot immediately after being turned off. Wait about ten minutes and reboot.



Even if passwords are set by the BIOS setup utility, they are not rendered effective until the jumper switches are changed.

Help

If the password necessary to boot the BIOS setup system is not known, return JP5 to 2-3. The password check is disabled.

● Starting the computer after password setup

After 'Set User Password' is set, the personal computer displays a password entry window when turned on again or the user attempts to run the BIOS setup utility.
Enter a password and press the Enter key.

```
Enter Password.
```

After 'Set Supervisor Password' is set, the computer displays a password entry window when the user attempts to run the BIOS setup utility. Enter a password and press the Enter key.

```
Enter Password.
```

Point

If the user enters an incorrect password three times, the system stops, in which case the Power switch must be pressed to turn the system off. After waiting at least ten seconds, turn the system on again and enter the correct password.

Changing passwords

To change a password, move the cursor to 'Set Supervisor Password' or 'Set User Password' and enter the new password.

Deleting passwords

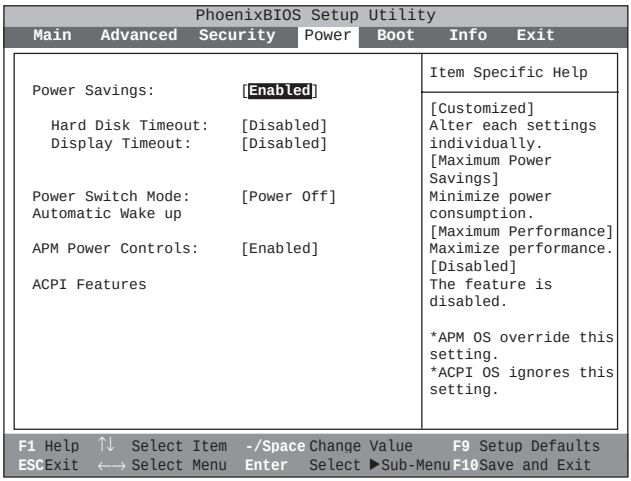
To delete a password, move the cursor to 'Set Supervisor Password' or 'Set User Password' and press the Enter key.
When the supervisor password is deleted, the user password is also deleted.

Point

A user can delete the password only when the length of the user password is set to 0. Otherwise, a message is displayed to indicate that the number of characters for the user password is insufficient.

5 Power Menu

The Power menu is used to set up the power savings mode.
The power savings mode is used to place the computer in standby mode and reduce power consumption if the system is on but not being used.
Select Power using the ← or → key to display the Power menu.



Details on setup items

● Power Savings

This item sets the level of the power savings mode.

- Disabled (Initial value for Windows 98 and Windows 95 models)
  The computer does not enter the power savings mode. 'Hard Disk Timeout' changes to [Disabled] and 'Display Timeout' to [Disabled].
- Customized (Initial value for Windows 95 and Windows NT models)
  The user can set 'Hard Disk Timeout' and 'Display Timeout' separately.
- Maximum Power Savings
  This item minimizes power consumption. 'Hard Disk Timeout' is set to [1 minutes] and 'Display Timeout' to [2 minutes] respectively.
- Maximum Performance Maximize
  This item reduces power consumption while degrading performance. 'Hard Disk Timeout' is set to [30 minutes] and 'Display Timeout' to [1 hour] respectively.

Point

- If this item is set [Disabled] on Windows 95/98, the computer displays the message "Ready to Turn off power", and its power is not automatically turned off. If this message is displayed, you have to turn off the power.
- If "Manage computer power on Windows" is not checked in "Power properties" on the Windows 95 control panel, the computer does not enter the power savings mode.
- Windows NT does not support power savings mode.
- This item is not available when Windows 98 runs in ACPI mode.

– Hard Disk Timeout

This item sets the time, from the time that access to the hard disk has been denied and then the hard disk is set to power savings mode, to the time that the motor stops.

- Disabled (Initial value)
  The hard disk does not enter the power savings mode.
- 30 seconds, 1 to 30 minutes
  Set the time for changing the hard disk to the power savings mode and for stopping the motor.

Point

- This function requires a hard disk unit supporting power savings. (The hard disk mounted on this personal computer supports power savings.)
- Regardless of this setting, it takes 10 minutes or more for some hard disks to be changed to the power savings mode. Set the time setting to more than 10 minutes when the user sets the disks to the power savings mode.
- It requires several seconds for disk rotations to become stable when the hard disk returns from the power savings mode to normal operation mode.
- This item is not available when Windows 98 runs in ACPI mode.

– Display Timeout

This item sets the time from no keyboard or mouse entry to display disappearance.

- Disabled (Initial value for Windows 98 and Windows 95 models)
  The display does not enter the power savings mode.
- 1 to 30 minutes, 1 hour (Initial value: 30 minutes for Windows NT models)

Point

- This function requests a display unit supporting the power savings mode.
- This item is not available for Windows 98 and Windows NT.

Point

This item is not available for Windows 98 and.

● Power Switch Mode

Set whether to enter power savings mode or to turn off the power when the Power switch is pressed.

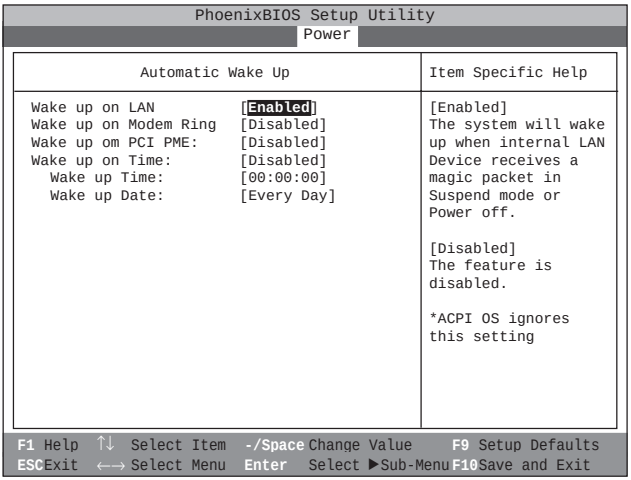
- Power Off (Initial value)
  The computer is turned off when the Power switch is pressed.
- Standby
  The computer enters the power savings mode when the Power switch is pressed in normal state and returns to normal state when pressed in power savings mode.

Point

- On WindowsNT, do not select [Standby].
- When Windows 98 runs in ACPI mode, the computer can be set to enter power savings mode when the Power switch is pressed through Windows 98 setup, regardless of 'Power Switch Mode.'

● Automatic Wake up

This item sets automatic boot or return from Standby mode using a submenu. Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Wake up LAN

This item sets whether to turn on the computer or to return from Standby mode when a magic packet is received from the standard LAN port.

- Disabled (Initial value)
  The computer is not turned on or returned from Standby mode after receiving a magic packet.
- Enabled
  The computer is turned on or returned from Standby mode after receiving a magic packet.

Point

For PME LAN cards (PCIs), use 'Wake up on PCI PME.'

– Wake up on Modem Ring

This item sets whether to turn on the computer or to return it from Standby mode when a call terminates on the modem connected to a serial port or on the modem card (PCI) connected to the RI cable.

- Disabled (Initial value)
  The computer is not turned on or returned from Standby mode when a call terminates on the modem.
- Enabled
  The computer is turned on or returned from Standby mode when a call terminates on the modem.

Point

- For PME LAN cards (PCIs), use 'Wake up on PCI PME.'
- When a modem connected to a serial port is switched on and off while [Enabled] is specified, some types of modem may affect the PC, such as the PC being switched on or switched from the standby mode.

– Wake up on PCI PME

This item sets whether to turn on the power or to return it from Standby mode when a PCI extension card issues a PME signal.

- Disabled (Initial value)
  The computer is not turned on or returned from Standby mode when a PME signal is issued.
- Enabled
  The computer is turned on or returned from Standby mode when a PME signal is issued.

Point

This item is not available when Windows 98 runs in ACPI mode.

– Wake up on Time

This item sets whether to turn on the computer or to return from Standby mode at the time specified in 'Wake up Date' and 'Wake up Time.'

- Disabled (Initial value)
  The computer is not turned on or returned from Standby mode at a specified time.
- Enabled
  The computer is turned on or returned from Standby mode at a specified time.

Wake up Time

This item appears when 'Wake up on Time' is set. Set the computer wake-up time.

- 00:00:00 to 23:59:59 (Initial value: 00:00:00)

Wake up Date

This item appears when 'Wake up on Time' is set. Set the computer wake-up date.

- Every Day (Initial value), 1 to 31
- Specify Date
  The prompt for entering a date appears.

● APM Power Controls

This item sets power controls by OSs supporting APM, such as Windows95/98.

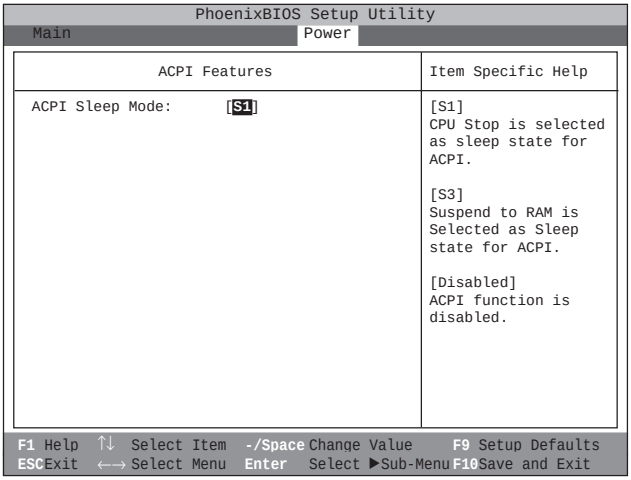
- Disabled
  Disables suspend mode of power off by APM supporting OSs, at which time the values set by the BIOS setup utility are always used.
- Enabled (Initial value)
  Enables suspend mode or power off by APM supporting OSs.

Point

If Windows 95 or Windows 98 is used and this item is set to Disabled, the automatic power-off function does not work when you shut down the PC. The message "The computer is ready for shut down" appears at the same time. Turn the computer off manually when this message appears.

● ACPI Features

This item sets ACPI features using a submenu. Move the cursor to this item and press the Enter key to display a submenu as shown below.



– Standby mode

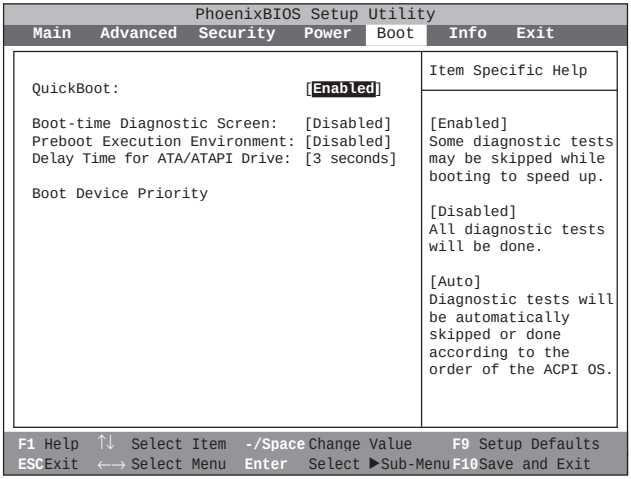
This item sets the standby mode for operating systems supporting ACPI.

- Standard (Initial value)

  Sets the standby mode to S1 (CPU stop).

6 Boot Menu

The Boot menu is used to set the priority of boot drives.
Select Boot using the ← or → key to display the Boot menu.



Details on setup items

● Quick Boot

This item sets whether to reduce the time after the personal computer is turned on or rebooted until the OS is loaded.

- Disabled
  The time to load the OS is not reduced.
- Enabled (Initial value)
  The time to load the OS is reduced.

Point

If an error occurs in POST at boot, quick boot is not performed at next boot.

● **Boot Time Diagnostic Screen**

This item sets whether to display the self diagnostic (POST) screen at boot or reboot.

- Disabled (Initial value)
  The FUJITSU logo is displayed at boot or reboot.
- Enabled
  The self diagnostic (POST) screen is displayed at boot or reboot.

Point

To confirm BIOS messages from an extension card, select [Enabled].

● **Preboot Execution Environment**

This item sets whether to preboot from the network server.

- Disabled (Initial value)
  Boots the computer from its hard disk drive, CD-ROM drive, or floppy disk drive.
- Enabled
  Starts the computer from a network server. If the computer is rebooted after this item is set to [Enabled], "PXE" is added to "Boot Device Priority."

Point

To boot from the network server, an installation server system conforming to Network PC System Design Guidelines Version 1.0b is required.

● **Delay Time for ATA/ATAPI Drive**

This item sets the wait time until the computer automatically identifies the ATA/ATAPI drive.

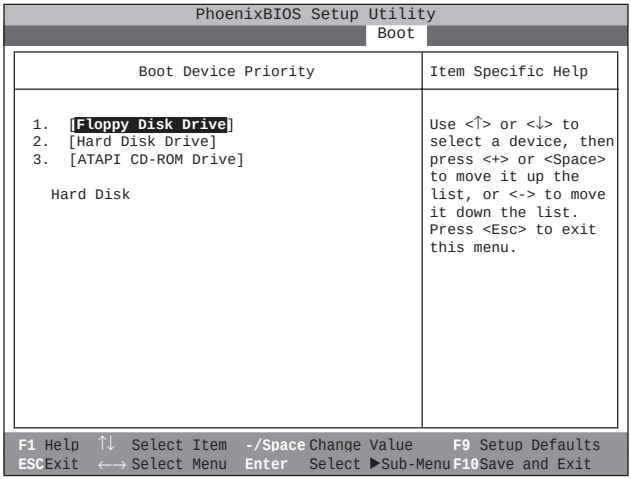
- None
  The computer boots automatic identification as soon as it launches.
- 3, 5, 10, 15, 30 seconds (Initial value: 3 seconds)
  The computer boots automatic identification after a preset time.

Point

If the computer does not identify the connected ATA or ATAPI drive properly, extend the preset time.

● Boot Device Priority

This item sets the priority of devices to load the OS using a submenu. Move the cursor to this item and press the Enter key to display a submenu as shown below.



The priority is the order of each item. (The lowest number indicates the highest priority.) Select the device whose priority is to be changed using the ↑ or ↓ key. The selected item moves up to a higher priority when the space is pressed and moves down to a lower priority when the - key is pressed.

Point

For booting from a CD-ROM, a CD-ROM containing an OS capable of being booted is required.

Before booting the power, set the CD-ROM on the CD-ROM drive.

● Hard disk drive

This item uses submenus to set the sequence of assigning drives. Click the Enter button to display the submenus.

The number to the left of each item indicates the sequence of assigning drive numbers. Select the device whose priority is to be changed using the ↑ or ↓ key. The selected item moves up to a higher priority when the space is pressed and moves down to a lower priority when the - key is pressed.

Details of each item are explained below.

1 FUJITSU MPD3064AT-(PM)

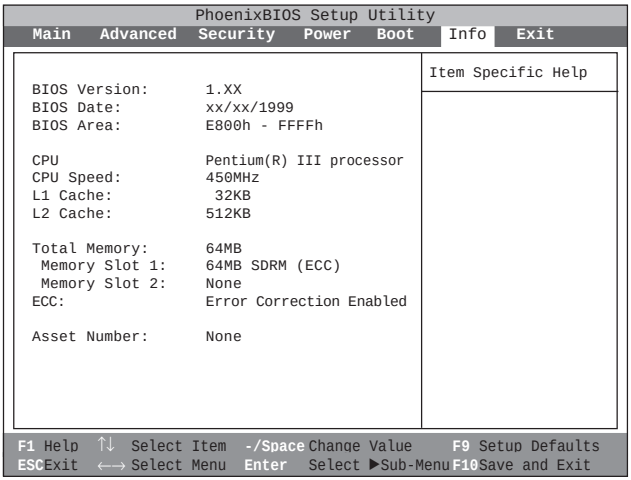
This item displays the name of the hard disk drive that is connected. If the hard disk drive has been replaced, the displayed name changes.

2 Bootable Add-in Cards

This item indicates cards that can be connected to bootable devices, but do not support the BIOS boot specification (BBS).

7 Info Menu

The Info menu is used to provide the hardware configuration of the personal computer The setting of this menu cannot be changed.
Select this item with the ← or → key to display the Info menu.



Details on setup items

- **BIOS Version**
  Displays the BIOS version.

- **BIOS Date**
  Displays the date of BIOS.

- **BIOS Area**
  Displays the addresses of the area available for BIOS. This area cannot be used as UMB.

- **CPU**
  Displays the type of CPU on this computer.

● **CPU Speed**

Displays CPU clocks.

● **L1 Cache**

Displays the size of the CPU primary cache memory.

● **L2 Cache**

Displays the size of the CPU secondary cache memory.

● **Total Memory**

Displays the total memory size (RAM) mounted on the computer.

– Memory Slot 1/2

Detects and displays the type of memory mounted on each memory slot. A slot with no memory mounted is indicated as "Not used."

● **ECC**

This item sets whether to perform memory error check (ECC mode).

- Disabled
  Memory check is disabled.
- Error correction enabled
  The system detects for a 2-bit error on memory and corrects a 1-bit error on memory in ECC mode.

● **Asset Number**

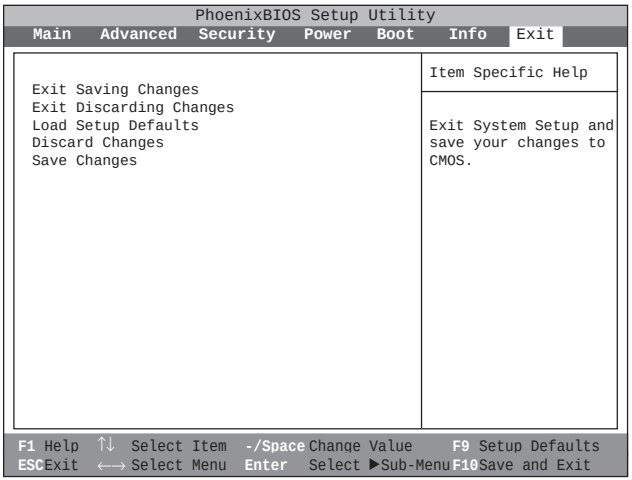
Displays an asset number. If no asset is set, "None" is displayed.

Point

The asset number is stored in a 64-byte data area but is displayed using only 30 characters. If more than 30 characters are used, the number is displayed with an angle (→) on the end indicating that it continues. The asset number can only be ASCII codes 20h to 7Eh. Other characters are displayed as "?"

8 Exit

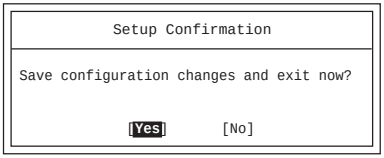
The Exit menu is used to exit the BIOS setup utility and to reset to standard setup values. Select Exit with the ← or → key to display the Exit menu.



Details on setup items

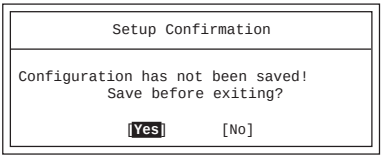
● Exit Saving Changes

This item exits the BIOS setup utility with saving changes to the CMOS RAM and reboots the computer. Press the Enter key to display the message shown below. Select [Yes] and press the Enter key.



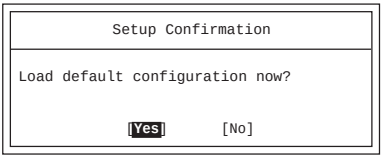
● Exit Discarding Changes

This item exits the BIOS setup utility without saving changes to the CMOS RAM and reboots the computer. All changes are discarded. If the Enter key is pressed while changing setup values, the message shown below is displayed. To discard changes, select [No] and press the Enter key.



● Load Setup Defaults

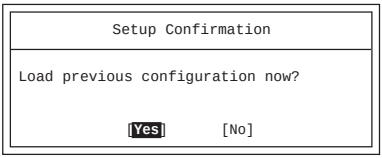
This item loads default values to all setup items. Press the Enter key to display the message shown below. Select [Yes] and press the Enter key.



For Windows NT model, specify [No] for [Plug & Play OS] in the Detail Menu, and specify [Customized] for [Power Savings] in the Power Menu.

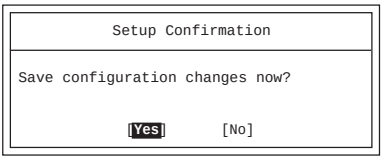
● Discard Changes

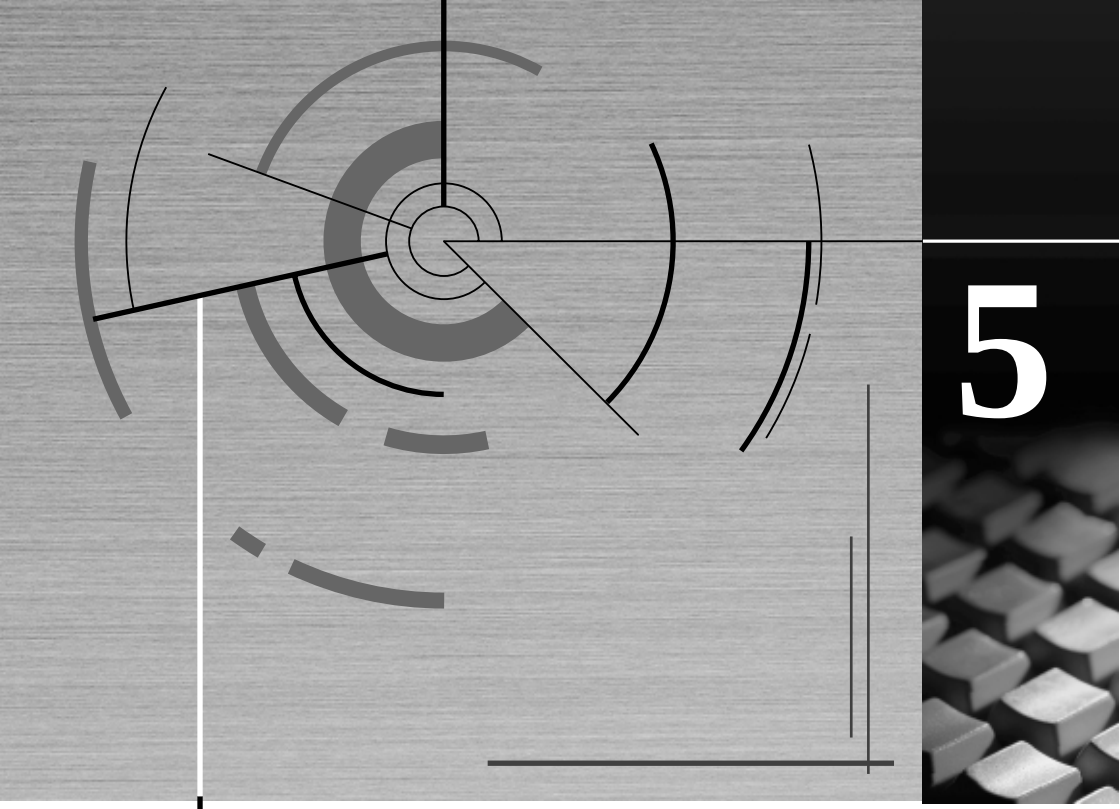
This item loads values before change from the CMOS RAM to all setup items and discards all changes. Press the Enter key to display the message shown below. Select [Yes] and press the Enter key.



● Save Changes

This item saves changes to the CMOS RAM. Press the Enter key to display the message shown below. Select [Yes] and press the Enter key.





Chapter 5 Troubleshooting

This chapter explains the procedure to follow if the computer does not operate as expected.

1 Error Messages

This section provides a list of error messages and suitable responses thereto. Consult this section as required.

Error messages displayed by the PC

Error Message	Description and necessary action
An error occurred at address xxxx during a system memory test.	If an extended RAM module is used, remove the module and determine whether the error recurs. If this message is not displayed, an extended RAM module error is expected. Replace with another extended RAM module and determine whether the error recurs. If the error recurs, contact a dealer or the Fujitsu service center.
An error occurred at address xxxx during an additional memory test.	Confirm that the extended RAM module is mounted properly and is a Fujitsu product. If the error recurs, contact a dealer or the Fujitsu service center.
System cache error-Cache disabled	contact a dealer or the Fujitsu service center.
An error occurred during a keyboard controller test.	Set the MAIN switch to OFF, then wait ten seconds and set to ON again. If the message is still displayed, contact a dealer or the Fujitsu service center.
An error occurred during a keyboard test.	If an external keyboard is connected, confirm that it is connected correctly and turn on the power again. If this message is still displayed, contact a dealer or the Fujitsu service center.
An error occurred during a floppy disk drive test.	Confirm that 'Floppy Disk Drive A' is set properly on the BIOS setup main menu and that the floppy disk drive is mounted correctly.

Error Message	Description and necessary action
An invalid hard disk drive was set.	Confirm ‘Primary master’ or ‘Secondary master’ on the BIOS setup main menu. If the message is still displayed, contact a dealer or the your local distributor.
Turn the power off, then on again.	If the message is still displayed, contact a dealer or the your local distributor.
Confirm BIOS setup items, then save.	If the message is still displayed, contact a dealer or the your local distributor.
Because the computer was not booted correctly last time, some of the setup values are reset to defaults.	This message is displayed if an invalid BIOS setup value is defined to boot the system, the power is turned off during boot, or the computer is rebooted three or more times in the same operation. To continue booting, press the F1 key. To run the BIOS setup utility and check setup values, press the F2 key.
If an error occurs during POST, this message is displayed before the OS boots.	To boot booting the OS, press the F1 key. To run the BIOS setup utility and change setup values, press the F2 key.
Check date and time settings	Confirm 'System Time' and 'System Date.'

Error Message	Description and necessary action
Invalid system disk	Replace the disk, and then press any key This message is displayed when the PC is switched on while a floppy disk other then a system disk is set in the floppy disk drive. Remove the floppy disk and press any key.
Non-System disk or disk error	Replace and press any key when ready This message is displayed when the PC is switched on while a floppy disk other then a system disk is set in the floppy disk drive. Remove the floppy disk and press any key.
Operating system not found	OS cannot be found. Confirm that the drive is correctly set at BIOS setup or the OS is installed in the specified drive.
An error occurred during execution of the Execution Environment.	The LAN cable is not correctly connected. Connect the LAN cable correctly.
An error occurred during execution of the Preboot Execution Environment.	The IP address required to boot the PC was not obtained. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu.
An error occurred during execution of the Preboot Execution Environment.	The boot filename was not obtained from the boot server. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu.
An error occurred during execution of the Preboot Execution Environment.	There is no boot server, or the boot server does not work correctly. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu.
An error occurred during execution of the Preboot Execution Environment.	The boot image file on the boot server was not obtained. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu.
An error occurred during execution of the Preboot Execution Environment.	Booting from a network failed. Set the boot server correctly, or set 'Boot from the network server' to Disabled on the BIOS setup menu.

Error Message	Description and necessary action
An error occurred when the memory speed was unclear.	When the system bus clock is 100MHz, a memory whose speed is unclear is mounted. Power off the system, and then replace the memory with one appropriate for the system bus clock.
An error occurred when a memory is inappropriate for the system bus clock.	The mounted memory is 66MHz and inappropriate for the system bus clock. Power off the system, then replace the memory with one appropriate for the system bus clock.

Correcting errors

If an error message is displayed, respond as follows.

- Running the BIOS setup utility
  If a BIOS setup error message is displayed, retry the BIOS setup utility.
- Confirming that built-in options are mounted correctly
  If optional extension cards are mounted, confirm that the cards are mounted and set up correctly. Also conform that the card is properly set. If available, consult manuals or utility software with extension cards.

If the error message is still displayed, the PC may be faulty. Contact the Fujitsu service center or a dealer.

2 Troubleshooting

This section provides troubleshooting information for each function. Consult this section as required. For troubleshooting information for Windows NT, refer to the Windows NT manual or the online help registered on the Start menu.

Troubleshooting information on the computer main unit and peripheral units

● **The access lamp does not light up.**

The PC may be faulty. Contact a dealer or the Fujitsu service center.

● **No data is displayed on the screen.**

Confirm the following:

- Is the Power switch on the display turned on?
- Is the power savings mode selected?
  Move the mouse or press any key.
- Is the display cable connected correctly? See "2 Connection" in Chapter 1, "Installation" to connect the display cable correctly.
- Is the power cable of the display unit connected to the outlet? See "2 Connection" in Chapter 1, "Installation" to connect the power cable correctly.

⚠WARNING

Electric shock

● Before connecting cables, turn off the power to prevent electric shock.

- Are the brightness and contact variable resistors on the CRT display unit adjusted correctly? Adjust the screen image using the brightness and contact variable resistors.

● **The screen flickers.**

Is there any strong magnetic field in the vicinity of the computer, such as a TV set? If so, keep away from the PC.

● **The screen sides are cut.**

Adjust the horizontal screen size using the adjustment controls on the CRT display unit.

● **Data cannot be read from or written to floppy disks.**

Check the following:

- Is the floppy disk drive head dirty? Clean the head using a cleaning disk. (See "Cleaning the floppy disk drive" in Appendix 4, "Maintenance.")
- Is the floppy disk write-protected? Move the write-protect tab on the floppy disk to a the write-enabled position.

● **The power is not turned on or the Power lamp on the front panel does not light up.**

Is the power cable plugged in?

● **Data cannot be read from the CD-ROM drive.**

Check the following:

- Has the CD-ROM been placed properly at the center of the tray? Place the CD-ROM on the tray again with the label side facing upward.
- Has the CD-ROM been placed upside down on the tray? Place the CD-ROM on the tray in the proper manner with the label side facing upward.
- Is the CD-ROM dirty or wet? Clean the CD-ROM with a soft dry cloth (moving from the center to the periphery).
- Is the CD-ROM damaged? Replace the CD-ROM.
- Does the CD-ROM conform to the required standard? Use a correct CD-ROM.

● **Characters entered using the keyboard are not displayed.**

Is the keyboard connected correctly? See "2 Connection" in Chapter 1, "Installation" to connect the display cable correctly.

● **The mouse cursor does not move.**

Is the mouse connected correctly? See "2 Connection" in Chapter 1, "Installation" to connect the display cable correctly.

Troubleshooting information on Windows 95/98

● **The entire Windows 95/98 programs are frozen during the execution of an application.**

First press the Ctrl + alt + Delete keys to end the application. If the application cannot be terminated, press the Ctrl + Alt + Delete key twice to reboot the computer. If the computer cannot be rebooted, press the Power switch to turn off the power, then reboot a few minutes later. After the computer is rebooted, from the Start menu, select Program - Accessories - System tools, then click on Scan disk.

If no error is detected by the scan disk utility, continue operation. If an error is detected, respond in accordance with the messages displayed.However, the error might happen again after it has been corrected. If the error recurs, attempt to reinstall Windows 95/98 or applications.

Point

The current operation data by an application is not saved if the application is terminated using the Ctrl + Alt + Delete keys or the computer is reset.

● **The mouse is disabled and Windows 95/98 cannot end.**

Use the keyboard to exit Windows 95/98 as follows:

1 Press the key or the Ctrl + Esc keys.
The Start menu appears.

2 Select "Exit Windows" with the ↑" or ↓ key and press the Enter key.
The Exit Windows dialog box is displayed.

3 Select "Turn off power" and press the Enter key.
Windows 95/98 ends.

● **A SCSI unit is connected using a SCSI card but cannot be identified by Windows 95/98.**

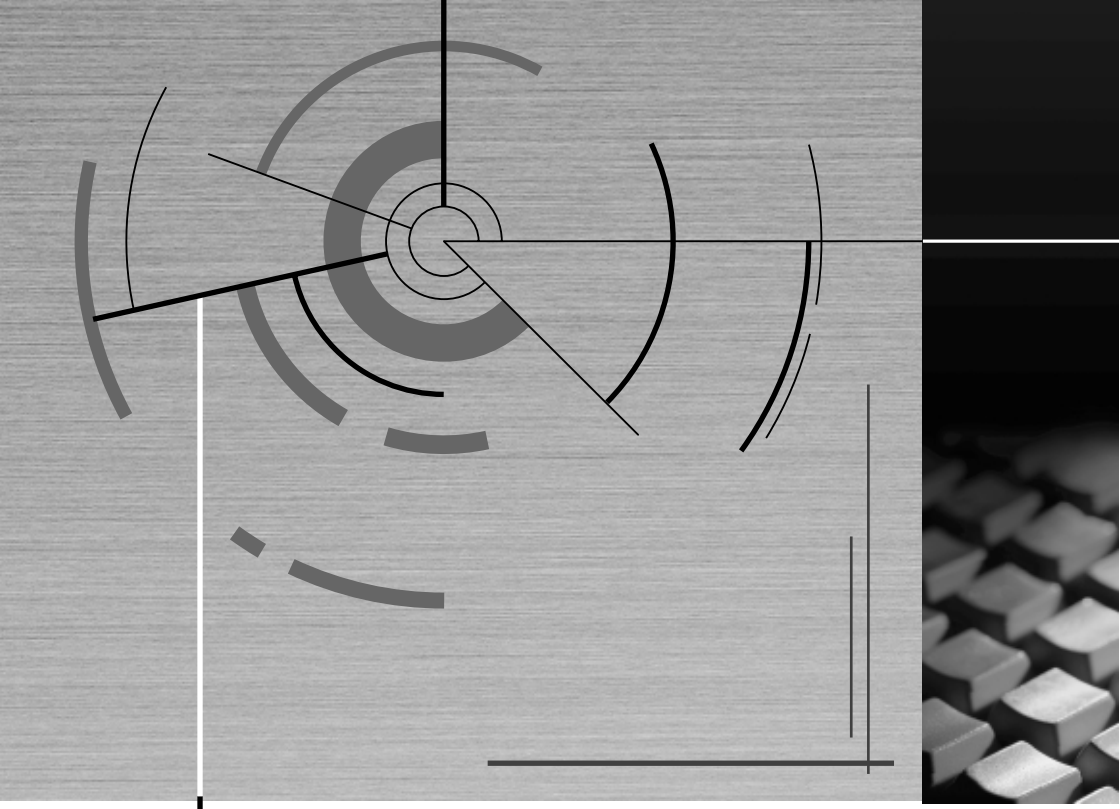
Check the following:

- Is the SCSI card driver installed correctly? Proceed as follows.
  1 From the Start menu, select Setup and click on Control Panel.
  The Control panel window is displayed.
  2 Double click on the System icon.
  3 Click on the Device manager tab and confirm that the SCSI controller is defined.
  If not defined, click on the Hardware icon in the Control Panel window to detect a SCSI card and install the driver.
- Is the SCSI unit turned on before the computer is turned on? If the computer is turned on before the SCSI unit is turned on, the SCSI unit cannot be identified.

If an error recurs

If the cause is still unknown or the system cannot be reset, contact a dealer or the Fujitsu service center. Then check and record the following:

- Model name and serial number of the computer (See the label at the rear of the computer.)
- OS and version used
- Types of extension cards and memory installed
- Circumstances (the particulars, including the messages displayed on the screen, etc.)
- Date and time an error occurred



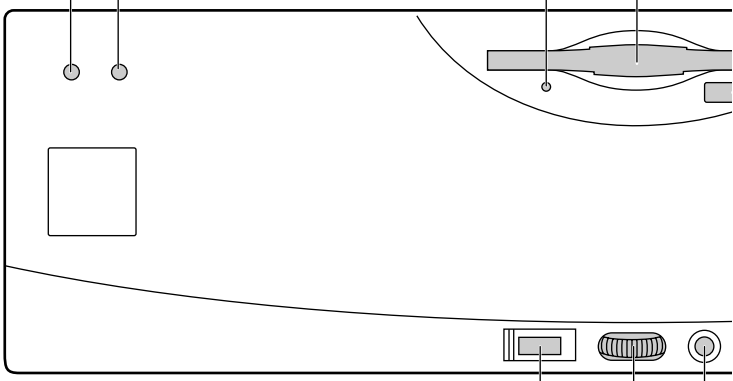
Appendix

This appendix explains how to clean the PC and provides PC main unit specifications.

1 Name and Function of Each Component

This section explains the name and function of each component of the PC main unit, motherboard/ riser board, and keyboard.

Front of the PC main unit



Power lamp
The lamp comes on while the PC main unit is on.

Hard disk access indicator lamp
The lamp comes on while accessing a hard disk.

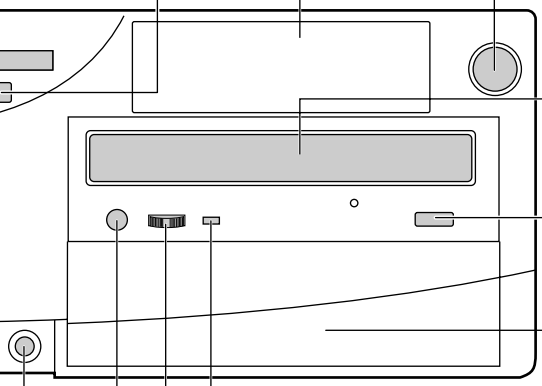
Floppy disk drive
Mount a floppy disk in this drive to write data into or read data from a floppy disk.

Floppy disk access indicator lamp
The lamp comes on while accessing a floppy disk.

USB connector
Connect the USB device.
Keep the cover closed when not used.

Sound volume
The sound volume of speakers and headphones can be controlled.

Headphone terminal
Connect a headphone.



Floppy disk eject button
Press this button to eject a floppy disk.

3.5-inch blank panel
Remove this panel to add a 3.5-inch internal option.

Power switch
Press this switch to turn on the PC main unit the system into the standby status, or recove system from the standby status.

CD-ROM drive
Use this drive to read a program from a CD-disk or play a music CD.

EJECT button
Press this button to mount or dismounta CD-ROM or a music CD. This button can be use while the PC main unit is on.

5-inch blank panel
Remove this panel to add a 5-inch internal option.

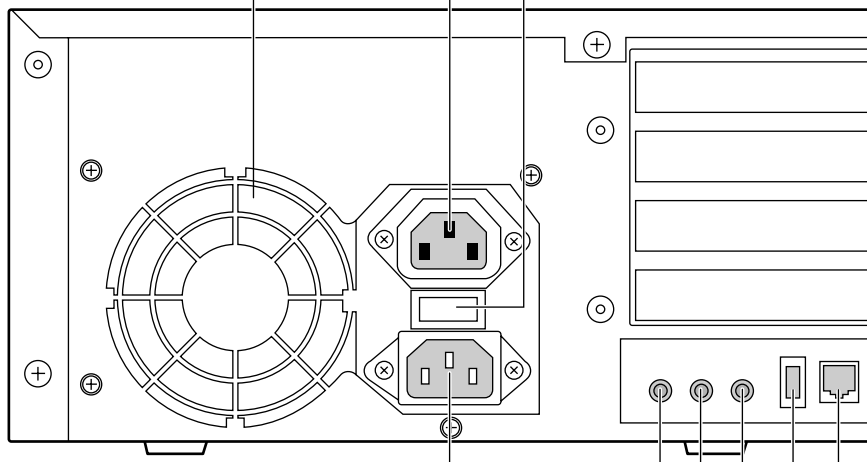
BUSY lamp
The lamp is on while reading data from a CD ROM or playing a music CD.

Headphone volume (Only for a music CD)

Headphone terminal (Only for a music CD

Microphone terminal
Connect a microphone.

Rear of the PC main unit



Power-switching switch

Outlet
Connect the power cord of the CRT display.

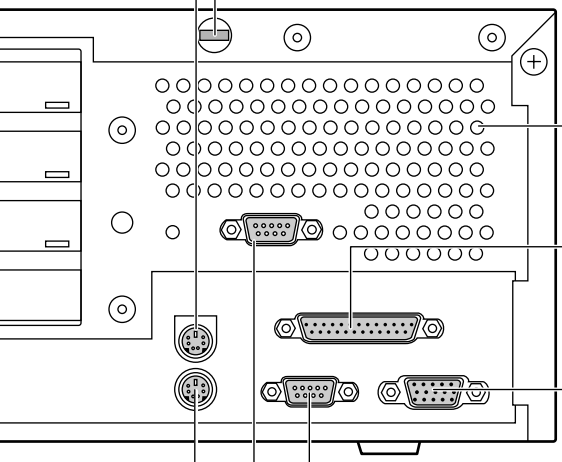
Ventilation holes
The heat within the PC main unit is ventilated through these holes. Keep them free.

Inlet
Connect the power cord of the PC main unit.

SPK OUT terminal
Connect the speakers.

LINE OUT terminal
Connect the input terminal of audio equipment.

LINE IN terminal
Connect the output terminal of audio equipment.



Keyboard connector (⌨: KEYBOARD)
Connect the keyboard cable.

Security lock
You can connect a security-use cable bought on the market.

Ventilation holes
The heat within the PC main unit is ventilated through these holes. Keep them free.

Parallel connector
(🖷: PRINTER)
Connect the printer cable. It is also called a parallel port.

CRT connector
(🖵: MONITOR)
Connect the CRT cable.

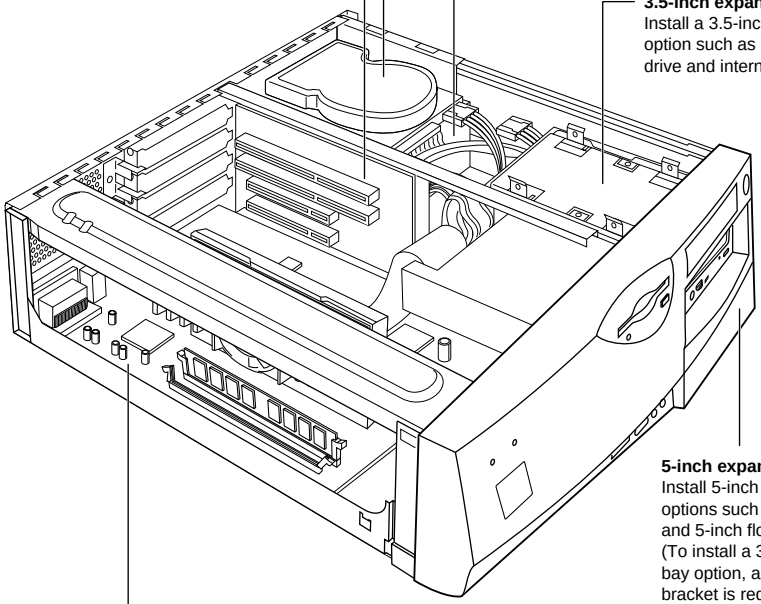
Serial connector
(¹⧈: SERIAL PORT1)
(²⧈: SERIAL PORT2)
Connect a RS-232C interface device such as a modem.

Mouse connector (🖱: MOUSE)
The heat within the PC main unit is ventilated through these holes. Keep them free.

LAN connector (🖧: NETWORK)
Connect the LAN cable.

USB connector
Connect the peripherals conforming to the USB standard.

Inside the PC main unit



Riser board
Connectors for expansion cards and IDE connectors are installed.

Internal hard disk
6.4-GB / 8.4-GB (standard) expanded IDE-standard hard disk. You can replace it with a hard disk with larger capacity.

Power supply unit

3.5-inch expansion bay
Install a 3.5-inch expansion bay option such as magneto-optic disk drive and internal hard disk.

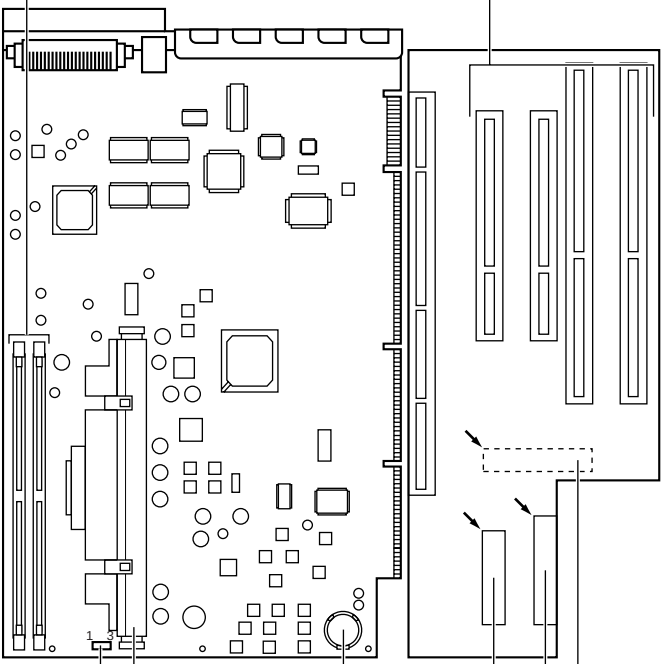
5-inch expansion bays (2)
Install 5-inch expansion bay options such as CD-ROM drive and 5-inch floppy disk drive. (To install a 3.5-inch expansion bay option, a retaining metal bracket is required.)

Motherboard
The CPU and DIMM slot are installed. It controls the main functions of the PC.

Motherboard/riser board

DIMM slot
Insert a memory module.
The slots are placed in the order of DIMM1 and DIMM2 from the right.

Expansion slot
Insert various option cards to extend the functions of the PC.
The slots are placed in the order of ISA1 (half), ISA2 (full), PCI1 (full), and PCI2 (full) from the right.



CPU

JP5 jumper switch
Set whether to enable the password.

Internal battery
The battery is used to store the setup of the PC. The life span of the battery is about five years under normal use condition (8 hours per day). If the upper cover of the PC main unit is left removed, the internal battery life will shorten. Keep the duration when the upper cover is left removed at minimum requirement such as only for installing internal options.

Primary IDE connector
Connect the hard disk for starting the operating system.

Secondary IDE connector

Floppy disk drive connector

: Position of pin 1

2 Standard Specifications

PC main unit specifications

Product name		DESKPOWER 5000
CPU		Intel Celeron / Pentium II / Pentium III
BIOS ROM		512 KB (FLASH ROM)
System RAM		SDRAM DIMM with 168-pin parity (Supporting ECC) Up to 512 MB
Floppy disk		3.5-inch disk drive x 1
Hard disk		6.4 GB / 8.4GB or higher capacity
CD-ROM		Optional
Graphics		ATI Rage XL AGP X2 (Integrated), 8 MB SDRAM
Sound		Crystal CS4280 + CS4297 (Integrated PCI)
I/F	CRT	VGA/SVGA D-SUB 15 pin
	USB	2 ports (4 pins) (One of the ports is on the front.)
	Keyboard	PS/2 type Mini DIN 6 pin
	Mouse	PS/2 type Mini DIN 6 pin
	Serial port	Asynchronous RS-232C x 2 D-SUB 9 pin
	Parallel port	Conforming to Centronics D-SUB 25 pin
	LAN	Intel 82559 100 BASE-TX/10 BASE-T (WAKEUP ON LAN function provided)
	Audio	Front: Microphone input, headphone output Rear: Line input, line output, speaker output
Error monitor function		CPU fan stop/CPU temperature error/voltage abnormality monitor within the motherboard
Number of expansion slots		4 ISA × 1 (Half) ISA × 1 (Full) PCI × 1 (Full) PCI × 1 (Full)

Product name	DESKPOWER 5000		
Number of Storage bays	5	Rear:	3.5-inch hard disk (standard feature)
		Front center:	3.5-inch floppy disk drive (standard feature)
		Front upper:	3.5-inch expansion bay
		Front middle:	5-inch expansion bay (CD-ROM installed as an option)
		Front lower:	5-inch expansion bay
Power supply/ frequency	100/230 VAC 50/60Hz		
Power consumption	Up to 145 W		
Weight	About 12 kg		
External dimensions	415 mm × 440 mm × 139 mm (W × D × H)		
Use environment	Temperature: 10 to 35 ˚C, humidity: 20 to 80% (RH)		

Point

Note that the specifications of the PC main unit may change without prior notice.

LAN adapter specifications

LAN controller	Intel 82559
Send and receive buffer RAM	3 kB each for send and receive
External interface	ISO8802-3 100BASE-TX/10BASE-T
Transmission media	Twisted pair cable[*1] (100 Mbps: Category 5, 10 Mbps: Categories 3 to 5)
Transmission method	Base band
Access method	CSMA/CD
Data transfer speed	100Mbps, 10Mbps
Wiring mode	Star type
Maximum segment length	100m
Maximum number of nodes/segment	Depends on the hub unit[*2]

[*1] To successfully operate the network at 100 Mbps, use an unshielded twisted pair cable (UTP) with a data grade of category 5 or higher. If a cable classified as category 3 is used, data is lost.

[*2] The hub unit is a concentrator of 100BASE-TX/10BASE-T.

Sound specifications

Product name		Manufactured by Crystal CS4280 + CS4297 (AC97)
Sound section	Interrupt request level	One IRQ is used.
	Sampling rate	5 to 48 kHz
External interface		Line input, microphone input, line output, speaker output, headphone output

Resources

The following tables list the factory-set statuses of the interrupt request levels (IRQ), DMA channels, and I/O port addresses of the PC.
To install an expansion card not supporting Plug & Play, configure the expansion card so as to not duplicate the resource assignments of the PC.

IRQ	Status
0	System timer
1	Keyboard
2	Slave IRQ controller
3	Serial port (COM2)
4	Serial port (COM1)
5	Free
6	Floppy disk
7	Parallel port (LPT1)
8	Real-time clock
9	USB[*1]/Sound[*1]
10	LAN[*1]
11	Free
12	Mouse
13	Floating-point processor
14	Primary IDE
15	Secondary IDE

[*1] Because of PCI device, the allocated IRQ level may be changed.

DMA	Status
0	Free
1	Free
2	Floppy disk
3	Free
4	Slave DMA controller
5	Free
6	Free
7	Free

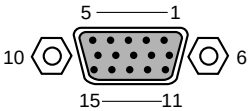
I/O	Status
0200h to 0207h	Joystick
02F8h to 02FFh	Serial port (COM2)
0378h to 037Fh	Parallel port
0388h to 038Bh	Sound card
03B0h to 03BBh	Display adapter
03C0h to 03DFh	Display adapter
03F8h to 03FFh	Serial port

Although "Joystick" is displayed in the device manager of Windows 95/98, it cannot be used with this PC because the joystick connector is not provided in your PC.

Connector specifications

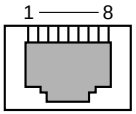
The pin arrangement and signal names of each connector are as follows:

● CRT connector



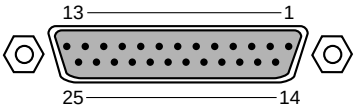
Pin no.	Signal name	Direction	Description
1	RED	Output	Red output
2	GREEN	Output	Green output
3	BLUE	Output	Blue output
4	NC	–	Not connected
5 to 8	GND	–	Ground
9	+5V	–	+5V
10	GND	–	Ground
11	NC	–	Not connected
12	SDA	Input/output	Data
13	HSYNC	Output	Horizontal synchronous signal
14	VSYNC	Output	Vertical synchronous signal
15	SCL	Input/output	Data clock

● LAN connector (100BASE-TX/10BASE-T)



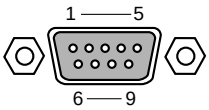
Pin no.	Signal name	Direction	Description
1	TD+	Output	Send data+
2	TD-	Output	Send data-
3	RD+	Input	Receive data+
4	NC	–	Not connected
5	NC	–	Not connected
6	RD-	Input	Receive data-
7	NC	–	Not connected
8	NC	–	Not connected

● Parallel connector



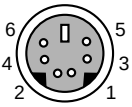
Pin no.	Signal name	Direction	Description
1	STROBE	Input/output	Strobe
2	DATA0	Input/output	Data0
3	DATA1	Input/output	Data1
4	DATA2	Input/output	Data2
5	DATA3	Input/output	Data3
6	DATA4	Input/output	Data4
7	DATA5	Input/output	Data5
8	DATA6	Input/output	Data6
9	DATA7	Input/output	Data7
10	ACK	Input	Acknowledge
11	BUSY	Input	Busy
12	PE	Input	Out of paper
13	SELECT	Input	Select
14	AUTOFD	Output	Automatic feed
15	ERROR	Input	Error
16	INIT	Output	Initialization
17	SLCTIN	Output	Select
18 to 25	GND	–	Ground

● Serial connector



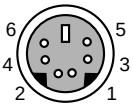
Pin no.	Signal name	Direction	Description
1	CD	Input	Carrier detection
2	RD	Input	Receive data
3	TD	Output	Send data
4	DTR	Output	Data terminal ready
5	GND	–	Ground
6	DSR	Input	Data set ready
7	RTS	Output	Send request
8	CTS	Input	Send enabled
9	RI	Input	Ring indication

● **Mouse connector**



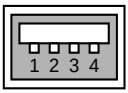
Pin no.	Signal name	Direction	Description
1	DATA	Input/output	Data
2	NC	–	Not connected
3	GND	–	Ground
4	VCC	–	Power supply
5	CLK	Input/output	Clock
6	NK	–	Not connected

● **Keyboard connector**



Pin no.	Signal name	Direction	Description
1	DATA	Input/output	Data
2	NC	–	Not connected
3	GND	–	Ground
4	VCC	–	Power supply
5	CLK	Input/output	Clock
6	NK	–	Not connected

● **USB connector (SeriesA)**



Pin no.	Signal name	Direction	Description
1	VCC	–	Cable, power supply
2	-DATA	Input/output	- data signal
3	+DATA	Input/output	+ data signal
4	GND	–	Cable, ground

3 Cleaning Method

How to clean the PC is explained as follows:

⚠WARNING

Electric shock

- To prevent electric shock, before cleaning the PC, switch off the PC and all connected units and unplug all power cords.

Cleaning the PC main unit

- Wipe the PC main unit with a soft dry cloth. If necessary use a damp cloth but do not permit moisture to come into contact with the PC main unit.
- Periodically vacuum dust around ventilation holes with a vacuum cleaner to prevent the blocking of ventilation holes by dust.

Cleaning the keyboard

Wipe the keyboard with a soft dry cloth.

Cleaning a CD-ROM

Wipe the CD-ROM disk, proceeding from the center to the rim, with a soft dry cloth. If necessary use a damp cloth followed by a soft dry cloth.

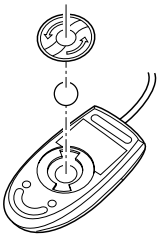
Cleaning the mouse

Use a soft dry cloth. If the ball does not roll smoothly, remove the ball and clean. To clean the ball proceed as follows:

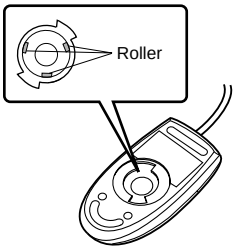
1 **Remove the back cover of the mouse.**

Turn the back cover of the mouse in the direction of the arrow to remove.

2 **Remove the ball and clean with water.**
Reverse the mouse to remove the ball, then clean the ball with water.



3 **Clean the inside of the mouse.**
Wipe the inside of the mouse, the rollers, and the back cover with a damp cloth.



4 **Attach the ball and the back cover.**
After drying the ball and the inside of the mouse, attach the ball and back cover.

Cleaning a floppy disk drive

The head (component for reading and writing data) of a floppy disk drive becomes dirty after extended periods of use, thereby preventing efficient data reading or writing operations. Use the cleaning disk to clean the head every three months.

● **For Windows 9X/NT model:**

Mount the cleaning disk in a disk drive
Enter a disk-access command such as "dir" at the command prompt of Windows.
Example: Enter a command as follows and press the [Enter] key.

```
dir  a:
```

4 Supplement

USB (for PCs using Windows 95/98)

The Universal Serial Bus (USB) specifications are used to provide a common interface to peripherals such as mouse, keyboard, printer, modem, and speakers.

Point

– Installing the dedicated device driver may be required, depending on the peripherals supporting the USB.
– Operating systems Windows 95/98 support the USB.
– If USB devices are connected, Windows may not be terminated normally, depending on the type of connected USB device. In such a case, remove the USB device and terminate Windows.

Installing IntranetWare/NetWare (for PCs using Windows NT)

To install IntranetWare™/NetWare® from the CD-ROM to your PC, start the PC main unit from the Windows NT setup disk so that the CD-ROM drive can be recognized from the PC main unit.
Then, follow the operating system installation procedure.

Wake up On LAN

Setting "Wake up on LAN" on the Power saving menu of the BIOS setup to "Enabled" turns on the PC via LAN (WOL: Wake up On LAN). To use this function, be sure to turn on the PC once more after connecting the power cord. Only connecting the power cord may not operate this function normally.

Replacing a display

When replacing a display with one having different specifications (particularly liquid crystal display), a display error (such as no image on the screen) may occur.
When replacing a display, restore the settings of the resolution and refresh rate to the factory settings.

- Resolution : 800 x 600
- Refresh rate : Optimum (for PCs using Windows 95/98) or 60 Hz (for PCs using Windows NT)

If no image appears on the screen or a resolution that cannot be displayed is discovered by replacing a display without making the above-cited settings, reinstall the display driver as follows:

1 **Start Windows in the Safe Mode.**

2 **Set the Graphic adapter to "Standard VGA," then restart the system.**

3 **Reinstall the display driver.**

Power saving function

If the power saving function operates when playing the sound or video of the following files, the application operation becomes unstable. To play the sound or video of the following files, disable the power saving function.

- Each file in the Wave/MDI/AVI/MPEG/DAT format
- Music CD

LAN cable

The LAN incorporated in the PC as standard is compatible with 100BASE-TX/10BASE-T. Check the speed of the network to be connected to your PC and use the following cables in accordance with network speed.

- 100BASE-TX : Use the unshielded twisted pair (UTP) cable with a data grade of category 5 or higher.
- 10BASE-T : Use the unshielded twisted pair (UTP) cable with a data grade of category 3 to 5 cable to minimize errors on the network.

Point

The LAN incorporated in the PC as standard corresponds to network speed automatically.

If network speed is changed due to changes in units, such as hub units, use a cable with an appropriate data grade.

USB keyboard (Windows 98 models)

If "Using the Shortcut Key" is enabled by clicking [Control Panel], [User Option], [Filter Function], and [Setup], the shortcut key function does not function by pressing the [Right Shift] key for 8 or more seconds and "Using the Filter Key Function" is not set. Set the checkbox for "Using the Filter Key Function" using the mouse.

Erratic mouse behavior when resume from suspend

In Window 98 Second Edition, if the mouse is clicked while system resume from suspend mode, erratic mouse behavior may occur. If this problem happen on your system, follow the procedure below:

1) copy vmouse.vxd to \windows\system\vmm32 directory

2) restart the system

note: vmouse.vxd can be found on the driver CD

CD-ROM drive

Cleaning a CD-ROM drive with a marketed CD-ROM cleaning disk may cause dust to adhere to the lens. Do not use a CD-ROM cleaning disk.

Notes on installing NetWare 5 server

The standard VGA is required when using NetWare 5 server. Install the NetWare 5 server by the following procedure:

1. **Referring to the manual attached to NetWare 5 server, advance to the second step of installing NetWare 5 server.**
2. **On the screen for "selecting the mouse type and video mode of the server", place the cursor on "Video: Super VGA", and press [Enter].**
3. **Make sure "Video: Super VGA" is displayed, place the cursor on [Continue], and press [Enter].**
4. **Refer to the manual attached to NetWare 5 server, and proceed with the subsequent installation procedure.**

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