DESKPOWER 6000/SS Series User's Manual

Fujitsu endeavours to ensure that the information in this document is correct, but accepts no liability for any error or omission in the same. Any procedures described in this document for operating Fujitsu products should be read and understood by the operator before such products are used. To ensure that Fujitsu products function without risk to safety and health, such procedures should be strictly observed by the operator. The development of Fujitsu products and services is continuous and published information may not be up to date. Any particular issue of a product may contain facilities not described herein. It is important to check the current position with Fujitsu. Specifications and statements as to performance in this document are Fujitsu estimates intended for general guidance. They may require adjustment in particular circumstances and should therefore not be taken as formal offers or commitments.

Fujitsu PC (Asia) Pte Ltd
200 Pandan Loop
#05-03 Pantech 21
The Computer Centre
Singapore 128388

Tel : 65-776 0688
Fax : 65-776 0788

Greetings

We thank you for purchasing the Fujitsu DESKPOWER 6000/SS personal computer.
The DESKPOWER 6000/SS is a desktop-type personal computer with a space-saving design.
This manual explains how to use the hardware of the DESKPOWER 6000/SS.
Please read this manual carefully to ensure correct use of the PC.

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 6000/SS (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.

● Referencing products

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

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

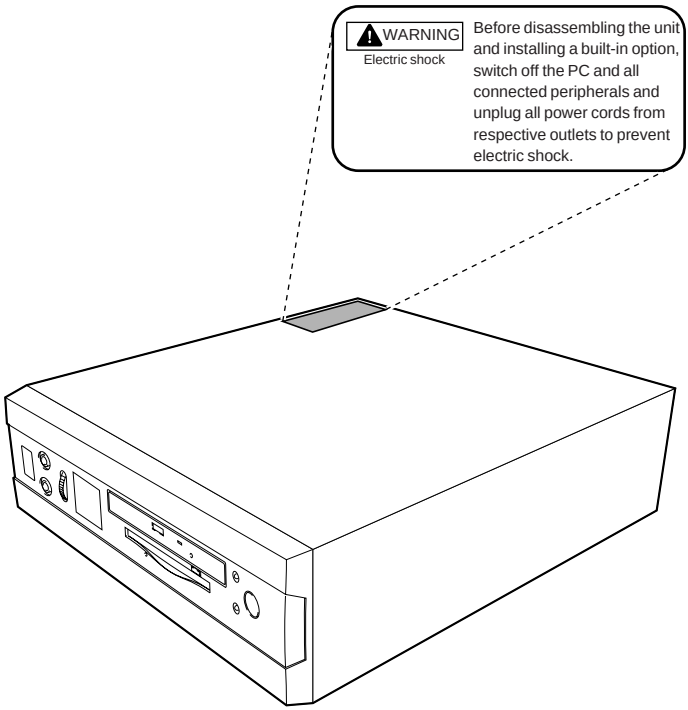
Windows 98 refers to Microsoft® Windows® 98 operating system.

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

The terms “your PC,” “the PC,” “your PC main unit,” and “the PC main unit” refer to the DESKPOWER.

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.



⚠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.

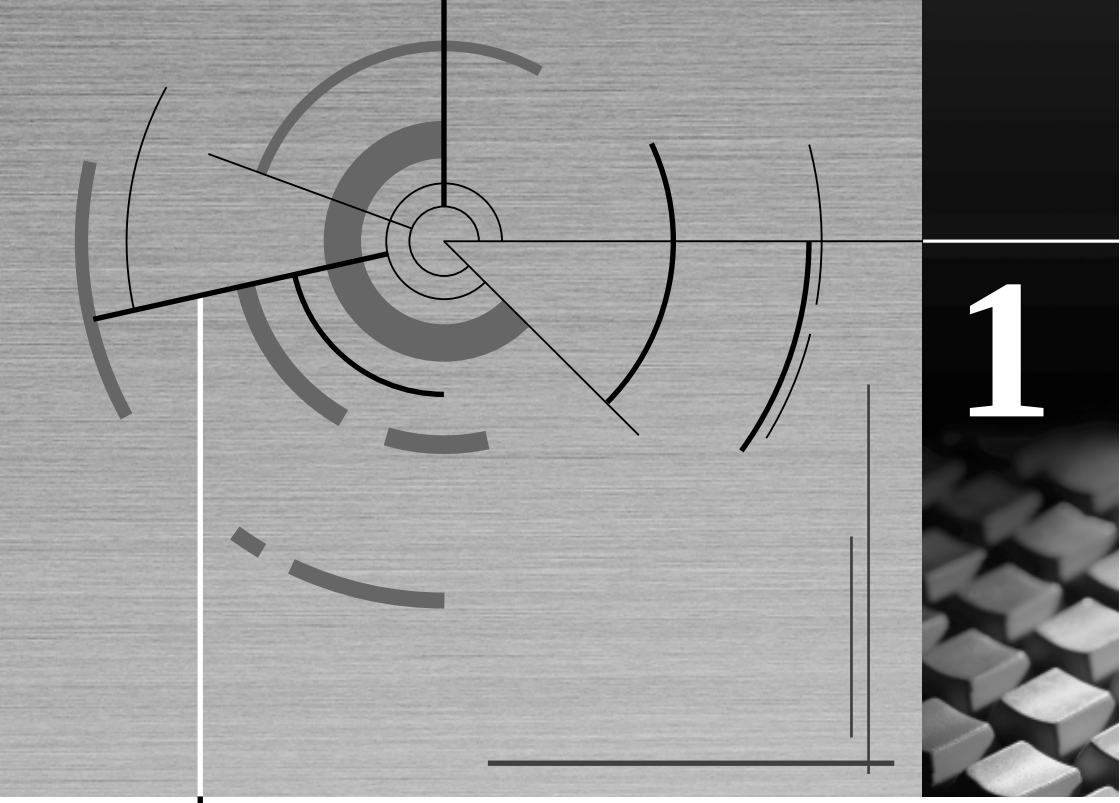
Appendix

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 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:

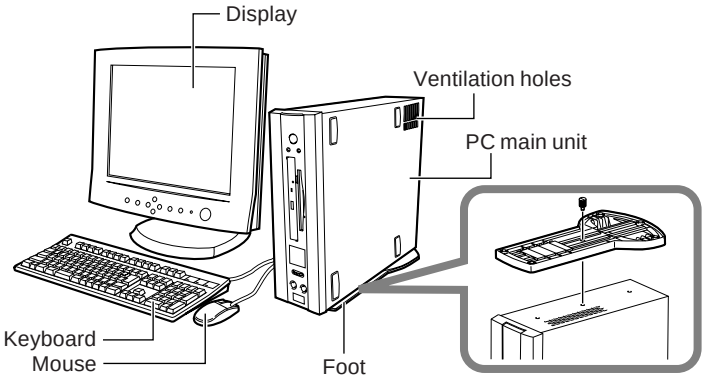
- Areas exposed to moisture, dust, or smoke.
- Areas poorly ventilated.
- Areas having open flames.
- Areas that may expose the PC to water.
- Areas exposed to direct sunlight or high temperatures.
- Areas having temperatures below 10°C.
- Areas that are unusually small or crowded.
- Areas having a strong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

Example of installing the PC

Install the PC as follows.

The PC main unit can be positioned vertically or horizontally as shown below. Ensure that ventilation holes are unblocked when installing the PC. When positioning the PC vertically, install the foot under the PC main unit.

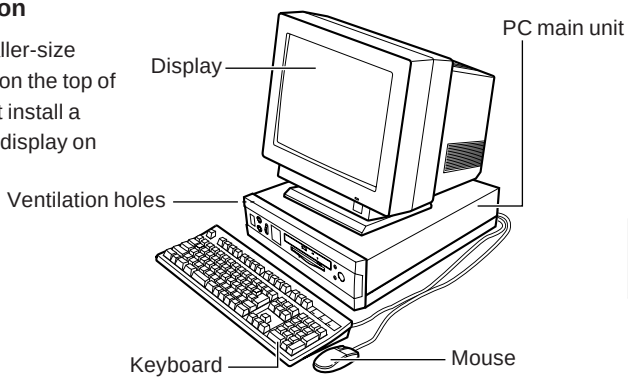
● **Vertical installation**



The unit is intended for desktop use only.

● **Horizontal installation**

Only a 17 inches or smaller-size display can be installed on the top of the PC main unit. Do not install a 19-kg or greater-weight display on the top of the PC unit.



Point

This instruction will proceed for the PC main unit to be positioned vertically. When posititioning it horizontally, replace the description “vertically” as “horizontally”.

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.

If interference continues, contact Fujitsu or the shop from which your PC or peripheral was purchased.

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 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).

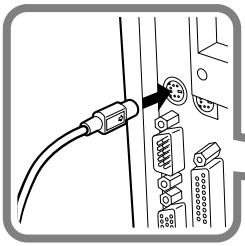
Injury

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

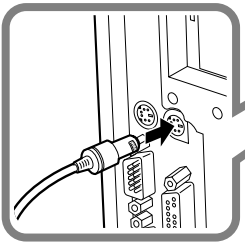
Point

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

Connect the LAN cable.
Attach one end of the twisted pair cable to the network connector, such as a hub.



Connect the mouse.
Attach the mouse cable connector to the mouse connector (ensuring that the colors of mouse connector and mouse label on the rear of the PC main unit match and that the arrow on the mouse cable connector housing is pointing to the right).

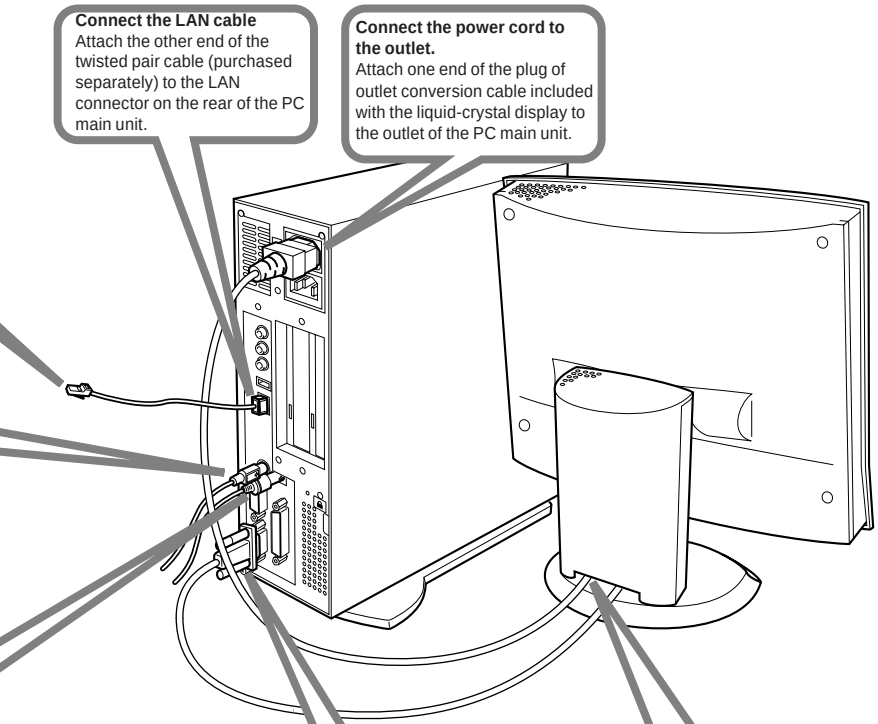


Connect the keyboard.
Attach the keyboard cable connector to the keyboard connector (ensuring that the colors of the keyboard connector and keyboard label on the rear of the PC main unit match and that the arrow on the keyboard cable connector housing is pointing to the right).

Attaching display, keyboard, mouse, and LAN cables

Point

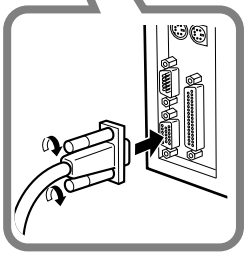
This section explains how to connect a liquid-crystal display. To connect a CRT display, use the power cord included with your PC package. The power cord included with the CRT display is not used.



Connect the LAN cable
Attach the other end of the twisted pair cable (purchased separately) to the LAN connector on the rear of the PC main unit.

Connect the power cord to the outlet.
Attach one end of the plug of outlet conversion cable included with the liquid-crystal display to the outlet of the PC main unit.

Connect the power cord to the liquid-crystal display
Attach the other end of the outlet conversion cable included with the liquid-crystal display to the inlet on the rear of the PC main unit.



Connect the liquid-crystal display cable to the PC main unit.
Attach the liquid-crystal display cable connector to the connector on the rear of the PC main unit and tighten the cable connector screws.

Connecting the power cord

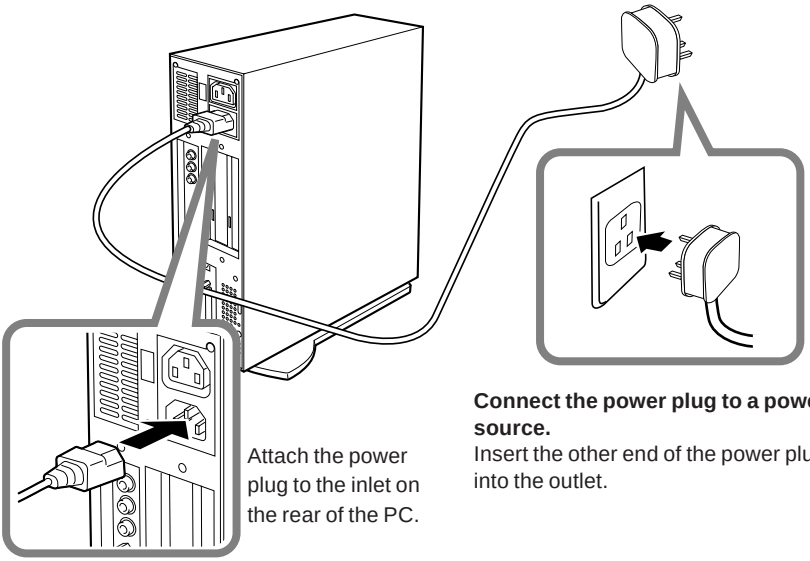
After connecting the display and other peripherals to the PC main unit, note the following when connecting the power cord of the PC main unit.

- 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.



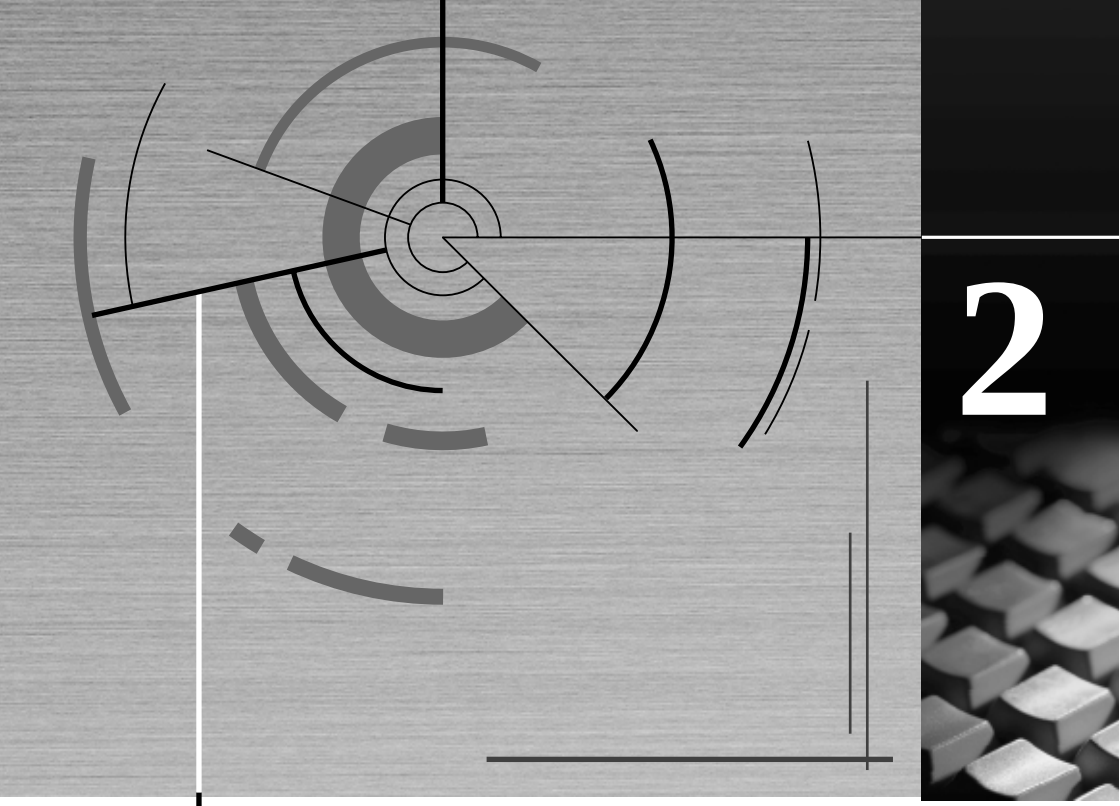
Attach the power plug to the inlet on the rear of the PC.

Connect the power plug to a power source.
Insert the other end of the power plug into the outlet.

Upon completion of all connections

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

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



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.

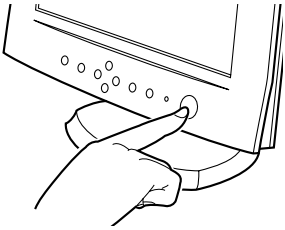
1 Switching on

This section explains how to switch on the PC.

⚠CAUTION

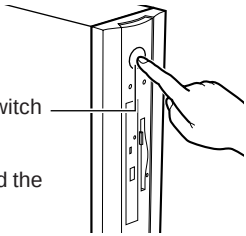
Prohibited action

- 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 display.

There is no display.



2 Press the power switch of the PC main unit.

The green power lamps of the PC main unit and display go on.

When the power is turned on, “Fujitsu” appears on the screen and the system starts shortly thereafter.

Point

- The orange power lamp goes on if the system is placed in suspended status.
- If there is no display on the screen, check that the display cable has been connected correctly. Adjust if the display area is not centered on the screen.
- While “Fujitsu” is displayed on the screen after power-on, the Power On Self Test (POST) is activated to check devices inside the PC. The power cannot be turned off while the POST is operating. If abnormal conditions are detected by the POST, an error message is displayed. For details on error messages, see Section 1, “Error Messages,” in Chapter 5, “Troubleshooting.”
- If the display power cord is connected to the PC main unit, the display is turned on with the PC main unit, in which case the power switch of the display can be left in the on position after it is turned on.
  Press the power switch of the PC main unit only to use the PC again, as described in step 2, at which time the display is automatically turned on.

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 the power cord or wait until AC power recovers. Pressing the power switch is not required. When the power recovers, the PC is automatically turned on and started.
- If the Power Management Mode of the BIOS setup is set to “Disabled,” the power is not switched off automatically (•••▶ see Section 11, “Power Management,” in Chapter 4, “BIOS Setup”).
- The power cannot be switched off while the POST is in operation. Switch off the PC, as described in the following, after the operating system has completely started.
- If “Suspend” is set for Power Switch<4 sec. of the BIOS setup, pressing the power switch for four or more seconds may not turn off the power and the orange power lamp may remain on, in which case the power switch must be detached and then re-pressed.

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

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].

Turn off the power switch.

Help

If the message “you can safely switch off power” appears and the power is not turned off automatically, press the power switch.

Point

The following procedure can also be used to turn off the power:

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 then click [OK].
Turn off the power switch.

3 Resets

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.

Handling precautions

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

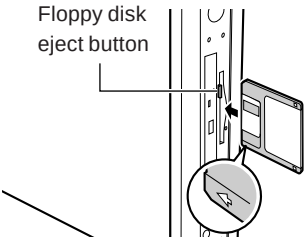
- Do not get wet.
- Do not open the disk shutter.
- Do not bend or place heavy objects thereon.
- Do not expose to magnetic force.
- Do not drop.
- Do not store in areas exposed to high or low temperatures.
- Do not store in a damp or dusty area.
- Do not overlay labels.
- Do not get wet.

Mounting and dismounting a floppy disk

● Mounting a floppy disk

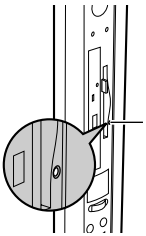
1 **With the label facing left, insert the floppy disk into the drive shutter-end-first.**

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 (if a CD-ROM drive-equipped model).
This section explains how to handle, mount, and dismount CD-ROM disks.

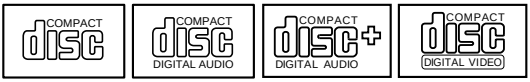
Handling precautions

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), 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.

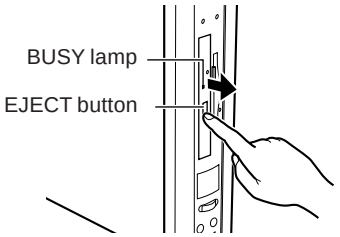
Point

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

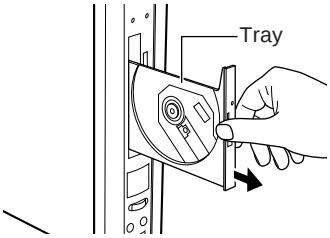


1 Press the EJECT button.

Pressing the EJECT button ejects the CD-ROM tray from the drive.

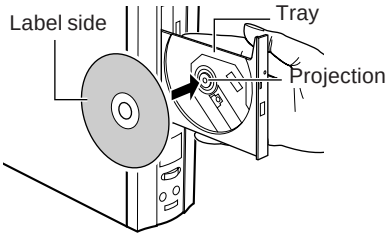
2 Pull out the tray.

Pull out the tray as shown on the right.



3 With the label of the CD-ROM disk facing up, place the CD-ROM disk in the center of the projection tray until it clicks.

Hold the tray so that the unit may not be overturned.



4 Push the tray into the PC main unit until it clicks.

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.

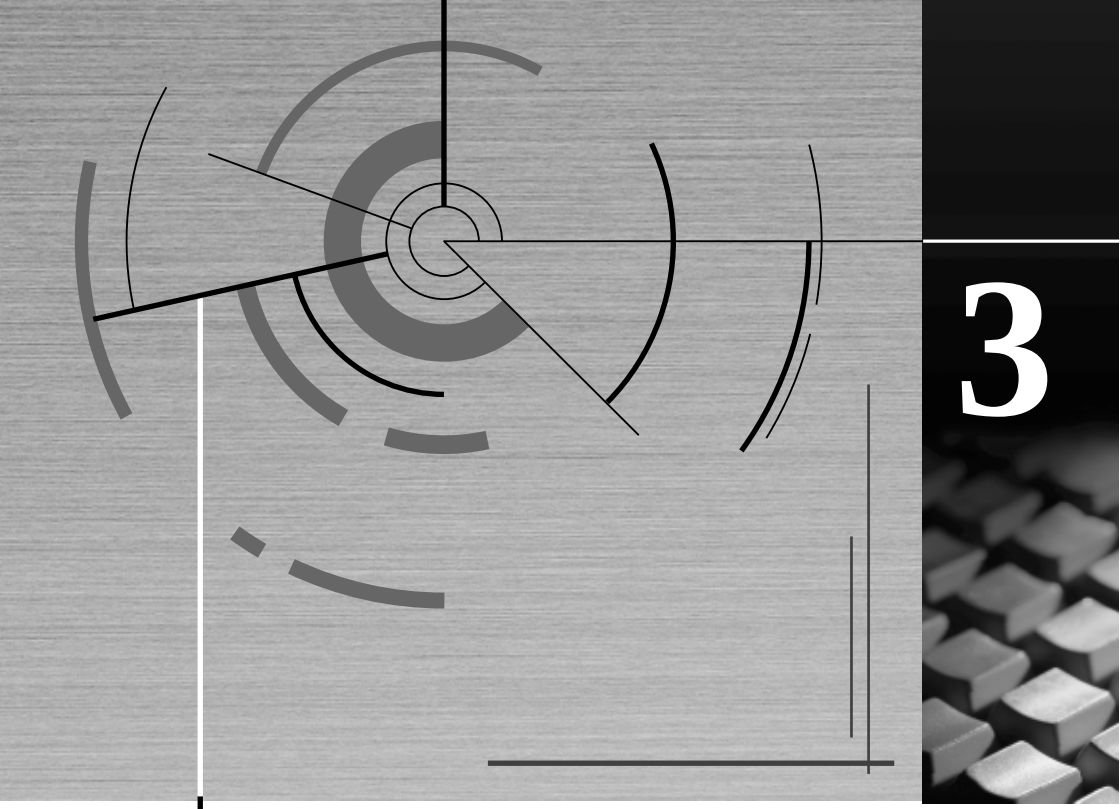
Handling precautions

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 explains the types of internal options that can be installed in the PC and how to remove the upper cover in preparation for installing the internal options.

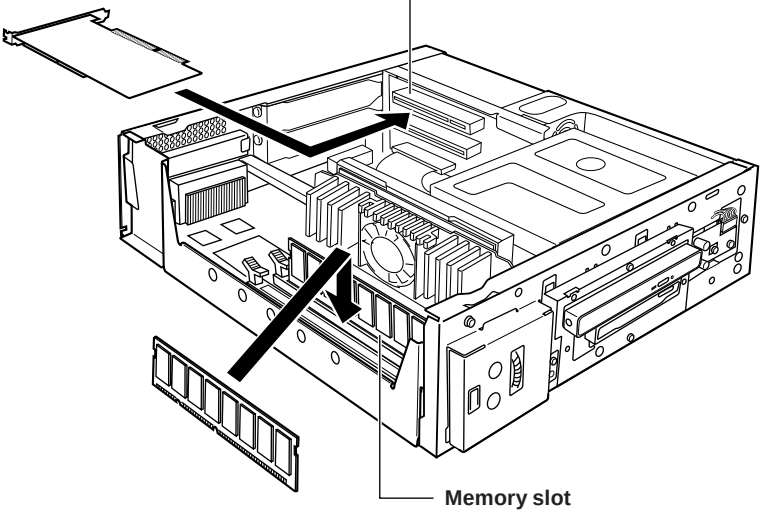
Handling precautions

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

Extension card slot
Expansion cards extend the range of the features of the PC.
For example, installing a SCSI card enables the use of a SCSI-standard hard disk and a magneto-optical disk drive.

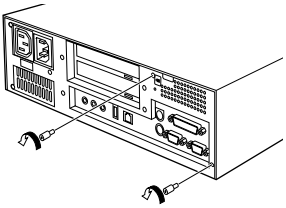


Memory slot
Memory expansion increases the amount of data to be read and enhances the throughput of the PC.

Removing the upper cover

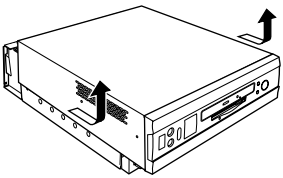
When installing internal options, remove the upper cover so as to reveal the inside of the main unit.

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



2 **Remove the upper cover.**

Slide the upper cover to the front of the PC main unit, then lift and remove the cover.

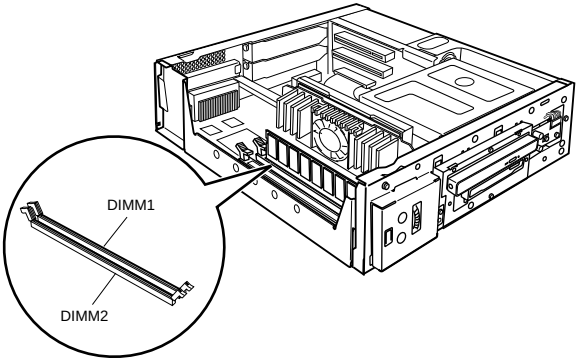


Point

To replace the cover, reverse the above procedure.

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 combination table

Install a memory module to DIMM1 and DIMM2. A memory module has been installed in DIMM1 as standard. Check the combination of memory capacity and slot using the following table to install the memory module. Using a combination other than below may result in faulty operation of the PC.

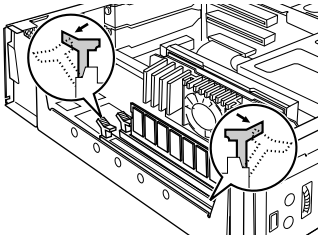
Point

Use a genuine Fujitsu part called “168-pin SDRAM DIMM (100 MHZ) memory” for this PC. The PC may not work correctly if the recommended Fujitsu memory module is not used.

Installing an additional memory

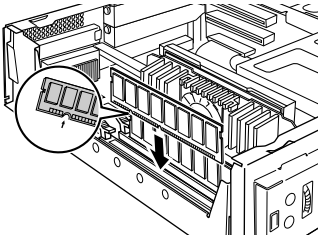
1 **Remove the upper cover.**

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



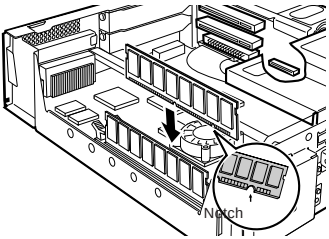
3 **Insert the memory card into the slot.**

- Insert the memory card into the slot such that the notches of the memory card face the rear of the PC main unit. The hooks at both ends of the slot are raised. Confirm that the memory card is securely locked in place.



or

- Insert the memory card into the slot such that the notches of the memory card face the front of the PC main unit. The hooks at both ends of the slot are raised. Confirm that the memory card is securely locked in place.

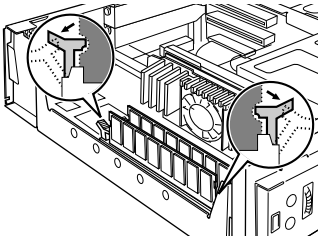


4 **Attach the upper cover.**

Removing the memory

1 **Remove the upper cover.**

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



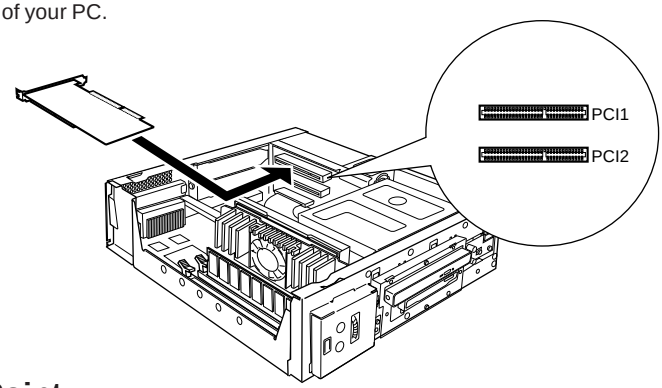
Point

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.
- An expansion card up to 176-mm (half size) in size can be installed in the upper PCI slot, and an expansion card up to 150-mm in size can be installed in the lower PCI slot.

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.

Electric shock

- 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 operate expansion cards, “resources” required for operation must be reserved.
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.”

Expansion cards for PCI bus can be installed in the PC.
Because expansion cards for PCI bus are “Plug & Play supporting cards”, the resources are set automatically when installing the card.

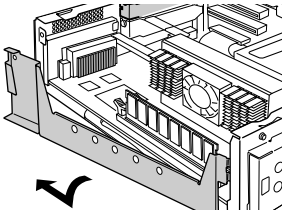
Installing an expansion card

• • • • • •

1 **Remove the upper cover.**

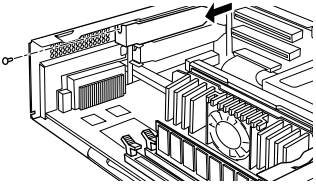
2 **Remove the retaining metal bracket at the side.**

Remove the screw and then remove the retaining metal bracket in the direction of the arrow.



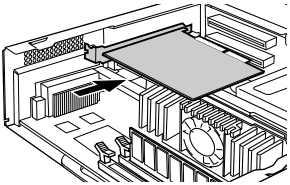
3 **Remove the slot cover.**

Remove the screw and then remove slot cover.



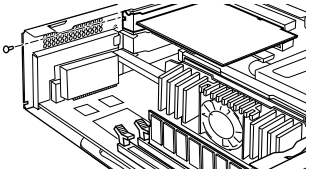
4 **Insert an extension card into the connector.**

Insert an expansion card into the connector.



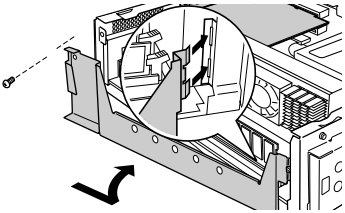
5 **Secure the expansion card with the screw.**

Secure the expansion card with the screw removed in step 2.



6 Install the retaining metal bracket at the side.

Insert the pawls of the retaining metal bracket into the groove on the front of the PC main unit, then install the metal bracket.
Secure the metal bracket with the screw removed in step 2.



7 Attach the upper cover.

Point

- Store the removed slot cover.
- To remove the expansion card, reverse the above steps.
- For display cards (For Windows 95/98 models)
  To install a display card, delete the “ATI mach64 display driver” as follows before installing display cards.

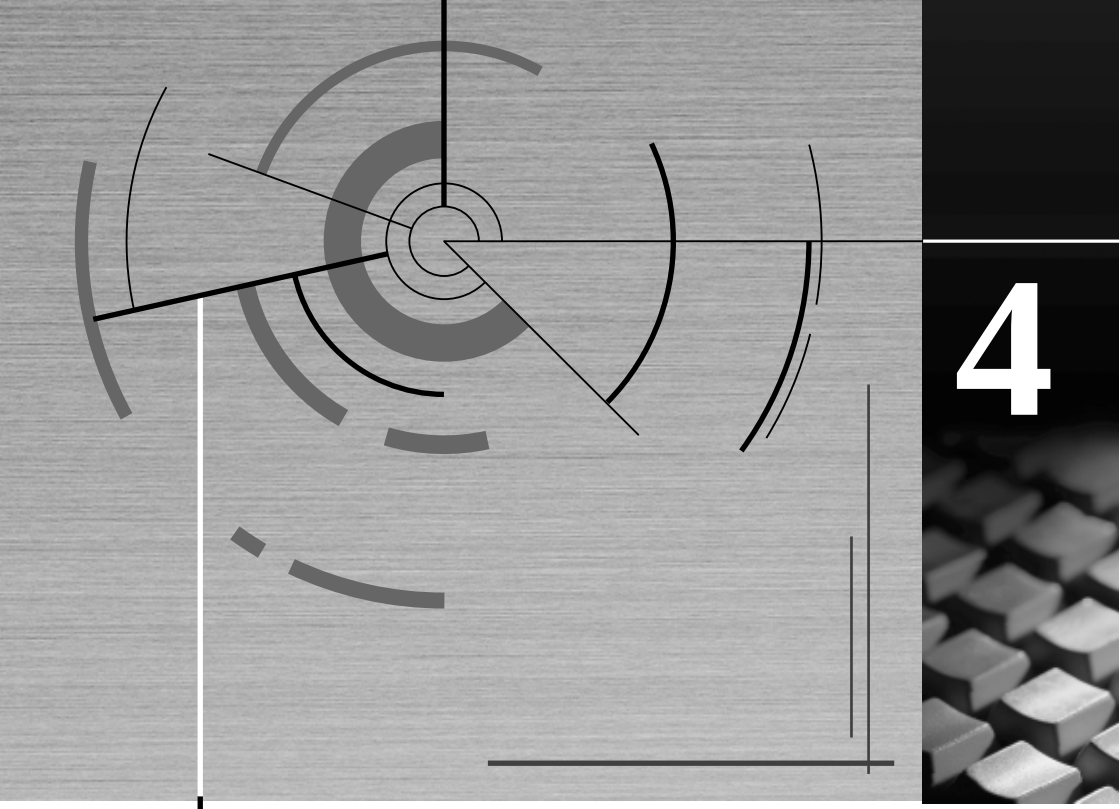
8 Switch on the PC.

- For Windows 95/98 models:
  The device driver and resources are set automatically, and the extension card can be used.

Point

- The device driver selected automatically with the Plug & Play function has been pre-registered in Windows 95/98 but may not have been registered depending on the expansion card or peripheral, in which case prepare the floppy disk containing the device driver included with the expansion card and set up the device driver in accordance with the message.
- Check whether the device driver has been correctly registered by the device manager before using the expansion card. If the driver has not been registered, delete the device driver, then restart Windows 95/98.

- For Windows NT model:
  Set up the device driver of an expansion card.
  See the manual included with the expansion card. The expansion card is rendered usable when the device driver has been set up.



4

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.

⚠CAUTION

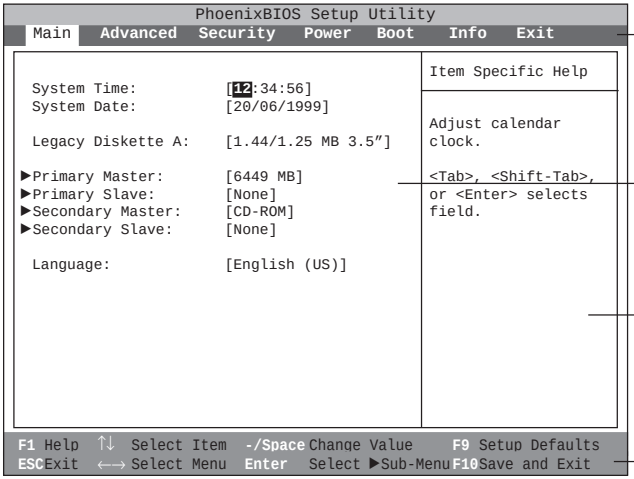
When replacing the battery, be sure to install it with the polarities in the correct position. Danger of explosion if battery is replaced with incorrect type or is mistreated. Do not recharge, disassemble or dispose of in fire. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

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: Main, Advanced, Security, Power, Boot, Info, and Exit.

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 return to setup values currently set up.
Tab key	Used to move the cursor between hours, minutes, and seconds while the 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.

- **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.

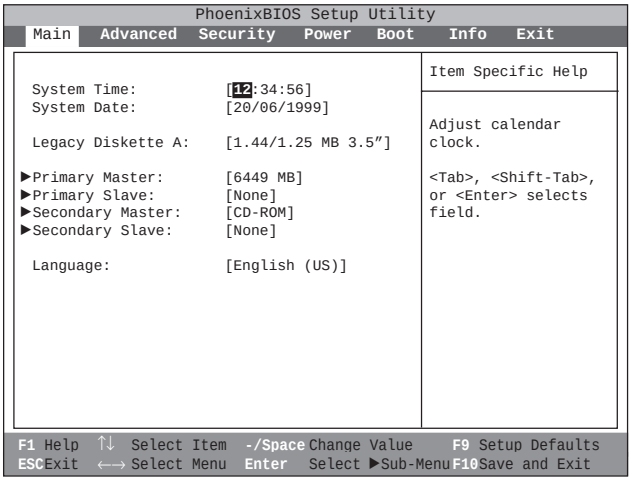
- **Info menu**
  Used to display the hardware configuration of the computer. This menu is information only.

- **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. When the Enter key is pressed, the cursor moves in the order of “month/days/year.”

  - 01/01/1981 to 12/31/2099

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.

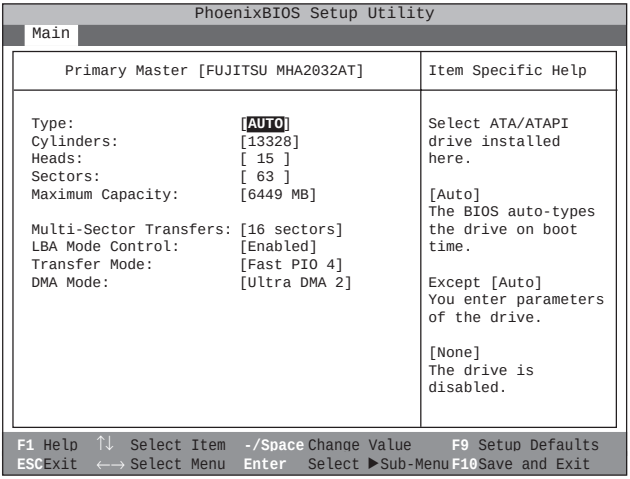
- **Floppy Disk A**

  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”

● Primary Master/Save, Secondary Master/Slave Menu

Using submenus, set the type of hard disk (master or slave) mounted on the primary IDE connector (Adapter 0) and secondary IDE connector (Adapter 1) 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
  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 (Initial value: 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
  LBA mode is disabled
- Enabled (Initial value)
  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.

- Standard (Initial value)
  The most basic data transfer mode is elected.
- Fast PIO 1/2/3/4, Fast PIO 3/DMA 1, Fast PIO 4/DMA 2
  Select a desired data transfer mode. A larger number indicates a higher transfer rate.

Point

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

– Ultra 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 0/1/2, 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.

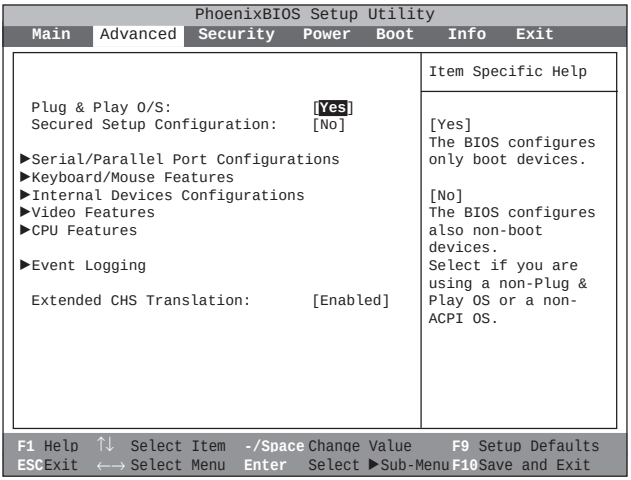
– Japanese (JP)

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 95/98 and Windows NT, select [No].

● Protected Device Configurations

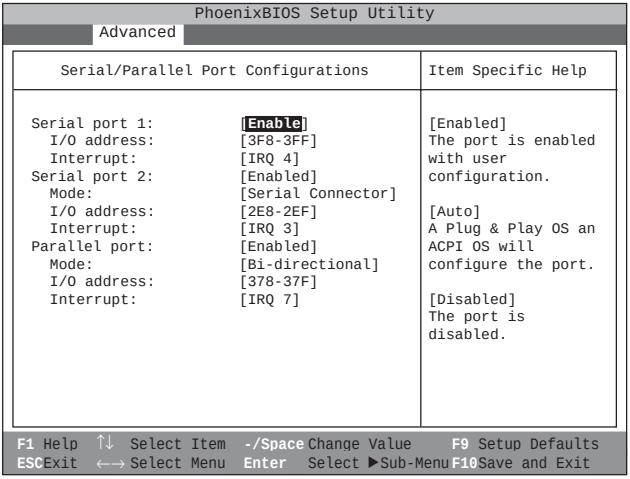
This item sets whether to protect the device configurations from the OS Plug & Play function.

– 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 number 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 number of the serial port.
- Auto
  The personal computer automatically assigns an I/O port address and an interrupt number.

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 number of serial port 1.

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

– Serial Port 2

This item sets the I/O port address and interrupt number 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 number of serial port 2.
- Auto
  The personal computer automatically assigns an I/O port address and an interrupt number.

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 98ACPI device manager.

Mode

This item appears when 'Serial Port 2' is [Enabled]. Set the operating mode of serial port 2.

- Serial connector (Initial value)
  Serial port 2 is used as serial connector 2.
- IrDA
  Serial port 2 is used as an infrared ray port.

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 number of serial port 1.

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

– Parallel Port

This item sets the I/O port address and interrupt number 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 number of the parallel port.
- Auto
  The computer automatically assigns an I/O port address and an interrupt number.

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]. 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 number of the parallel port.

- IRQ5, IRQ7 (Initial value: IRQ7)

DMA Channel

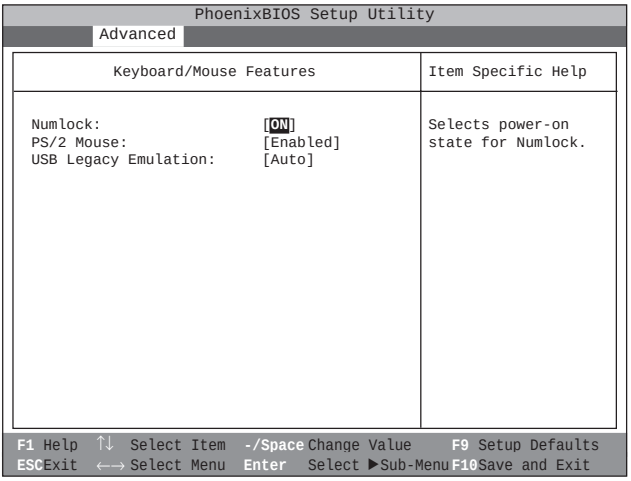
This item appears when ‘Mode’ is [ECP]. Set a DMA channel used to connect an ECP standard peripheral unit.

- 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.

- Auto (Initial value)
  The keyboard tenkey pad is set to Numlock mode when the keyboard has a Numlock key.
- On
  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 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.

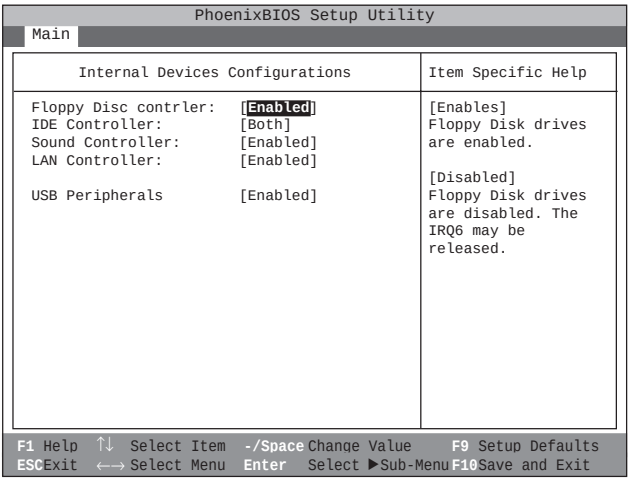
- Disabled
  The USB keyboard and mouse cannot be used on OSs not supporting USB.
- Auto
  The USB keyboard and mouse can be used on OSs which does not support USB, when the OS boot while no PS/2 keyboard is connected.
- Enabled
  The USB keyboard and mouse can be used on OSs not supporting USB.

Point

When 'USB Legacy emulation' is [Enabled], operation of the PS/2 keyboard or mouse may be slow if the OS is not Windows95/98.

● Internal Devices Configurations

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.
- Auto
  This personal computer automatically enables or disables the floppy disk controller.

– 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.
- Secondary
  The secondary IDE interface is enabled. The resource of the priory IDE interface are freed and all devices connected to the primary 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.
- 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.

– USB Peripherals

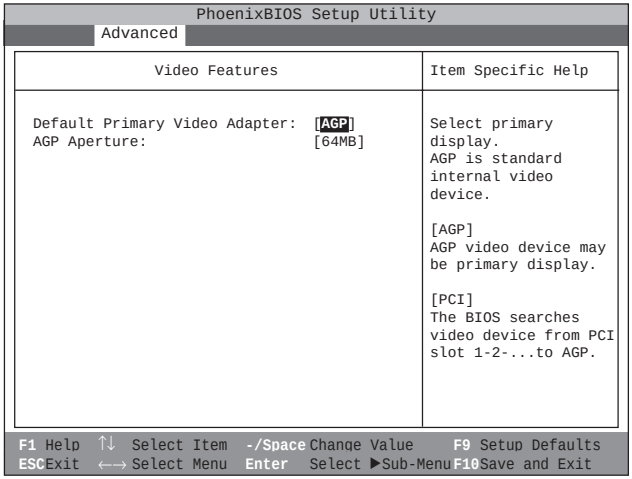
This item sets whether the devices connected to the USB connector are enabled.

- Disabled
  The devices connected to the USB connector are disabled.
- Enabled (Initial value)
  The devices connected to the USB connector are 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 (Initial value)
  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
  The AGP adapter on the mother board is used.

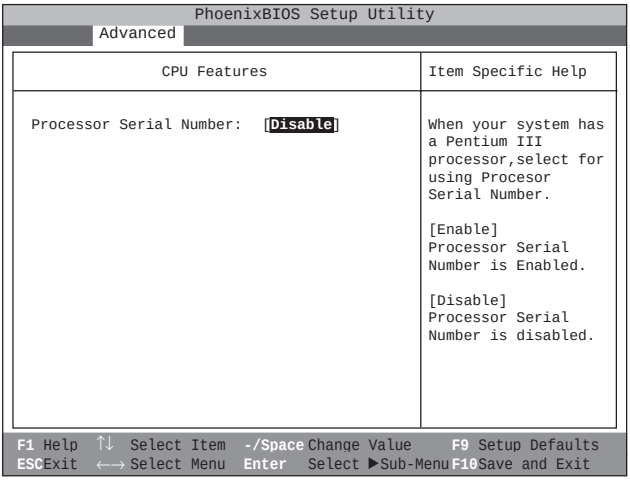
– AGP Aperture Size

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

- 8MB, 16MB, 32MB, 64MB, 128MB (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.

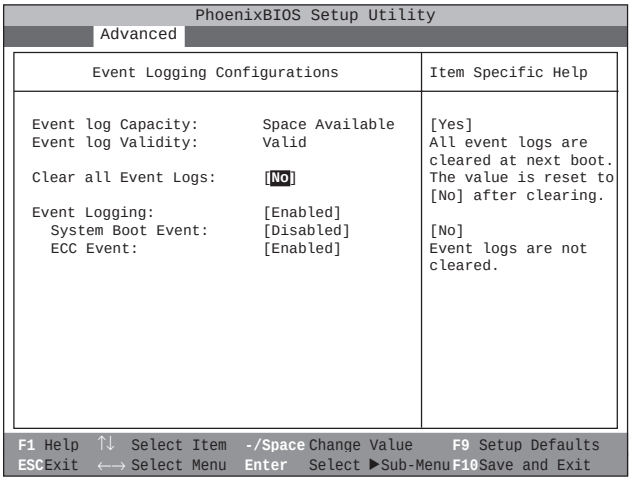
- Enabled
  The processor serial number function is enabled.
- Disabled (Initial value)
  The processor serial number function is disabled

Point

- To use the Intel processor serial number control utility, set 'Processor Serial Number' to [Enabled], otherwise this function cannot 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.

– Clear all Event Logs
This item sets whether all event logs are cleared at reboot.
- No (Initial value)
  Event logs are not cleared.
- Yes
  Event logs are cleared. 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 Event

This item appears when ‘Event Logging’ is [Enabled] and sets whether system boot events are logged.

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

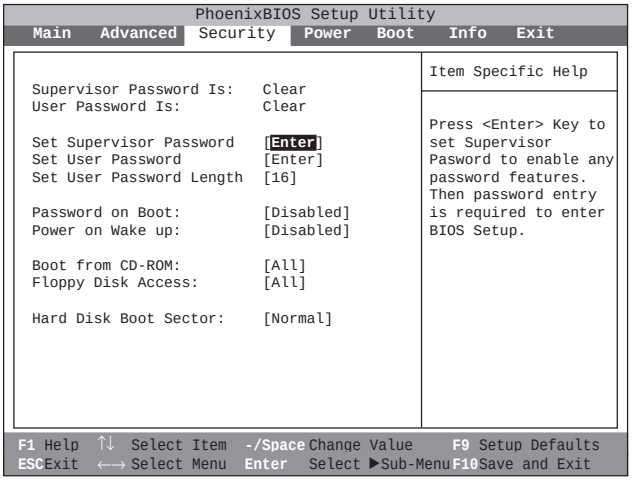
ECC event

This item appears when the DRAM ECC function is enabled and ‘Event Logging’ is [Enabled] and sets whether ECC events are logged.

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

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.



Point

- Before setting passwords, set the password jumper on the mother board to Enabled, otherwise the Security menu items may not be concealed.

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.
- If a password is set while 'Password on Boot' is [Disabled] and 'Floppy Disk Access' is [Supervisor Only], all users are considered general users and are not permitted to access floppy disk drives.

● **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 stopped" is displayed and the PC does not respond to keyboard entry. In such a case, press the Power switch for at least four seconds to turn the PC off. After waiting at least ten seconds, turn the power on again and enter the correct password.
- When both 'Set User Password' and 'Supervisor Password' are set, BIOS setup items are restricted.

● **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)

● **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.

Point

This item appears only when the computer is turned on with the Power switch.

● **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.

● **Boot from CD-ROM**

This item appears when 'Supervisor Password' is set. Set the right to boot the OS from the CD-ROM.

- All (Initial value)
  All users can boot the OS from the CD-ROM.
- Supervisor Only
  Only the supervisor can boot the OS from the CD-ROM when 'Password on Boot' is set.
  If 'Password on Boot' is not set or automatic wakeup is set, users cannot boot the OS from the CD-ROM.

● **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 may 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 seven 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 boots a setup with a user password when the supervisor and user passwords are set, the following items may not appear on the menu:
  Set Supervisor Password
  Diskette access
  Fixed disk boot sector
- If the user enters a wrong password three times, the message "System stopped" is displayed and the PC does not respond to keyboard entry. In such a case, press the Power switch for at least four seconds to turn the PC off. After waiting at least ten seconds, turn the power on again and enter the correct password.

6 **Exit the BIOS setup utility and turn off the power.**

7 **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

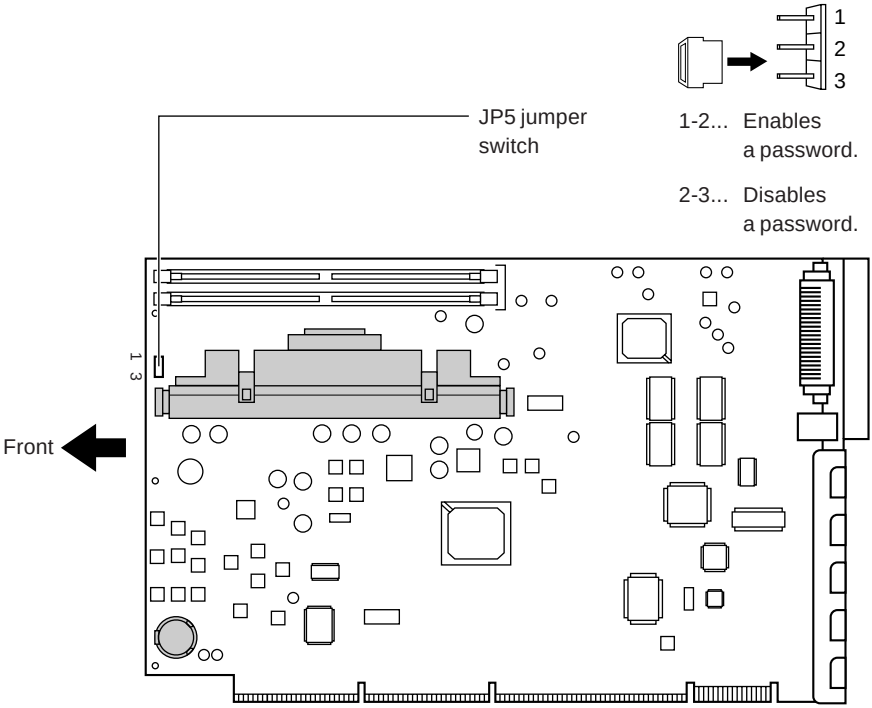
Electric shock

- 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.

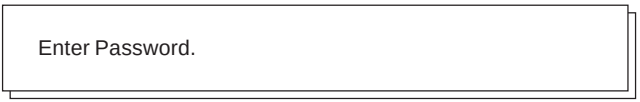
Help

If the password necessary to setup BIOS or boot the 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.

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.



Point

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

Changing passwords

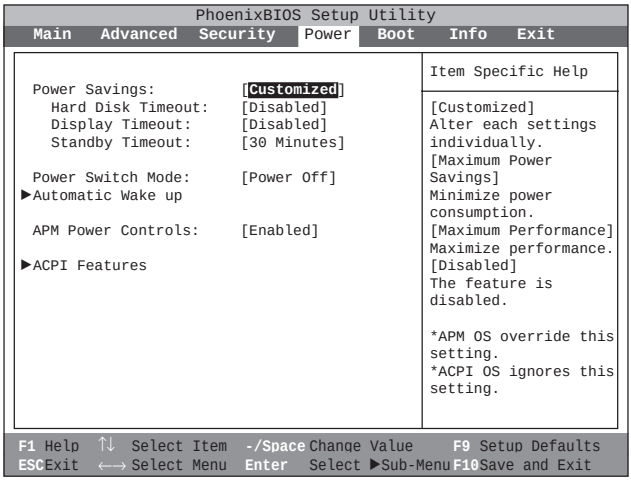
To change a password, move the cursor to ‘Set Supervisor Password’ or ‘Set User Password’ and enter the new password.

Deleting passwords

To delete a password, move the cursor to ‘Set Supervisor Password’ or ‘Set User Password’ and press the Enter key.

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 model)
  The computer does not enter the power savings mode. 'Hard Disk Timeout' changes to [Disabled];, 'Display Timeout' to [Disabled]; and 'Standby Timeout' to [Disabled].
- Customized (Initial value for Windows 95 and Windows models)
  The user can set 'Hard Disk Timeout,' 'Display Timeout,' and 'Standby Timeout' separately.
- Maximum Power Savings
  This item minimizes power consumption. 'Hard Disk Timeout' is set to [1 minutes]; 'Display Timeout' to [2 minutes]; and 'Standby Timeout' to [1 minute], respectively.

- Maximum Performance Maximize
  This item reduces power consumption while degrading performance. 'Hard Disk Timeout' is set to [30 minutes]; 'Display Timeout' to [1 hour]; and 'Standby 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. (Initial value)

Point

- This function requires a hard disk unit supporting power savings. (The hard disk mounted on this personal computer supports power savings.)
- 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)
    The display does not enter the power savings mode.
  - 1 to 30 minutes, 1 hour

Point

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

– Standby Timeout

This item appears when 'Power Savings' is [Enabled]. Set the time from no key entry or data input/output to the time the PC enters standby mode.

- Disabled
  The computer does not enter standby mode
- 1 to 30 minutes, 1 hour (Initial value: 30 minutes)

Point

This item is not available for Windows 98.

● Power Switch Mode

This item appears when 'Power Savings' is [Enabled]. Set whether to enter power savings mode or to turn off the power when the Power switch is pressed.

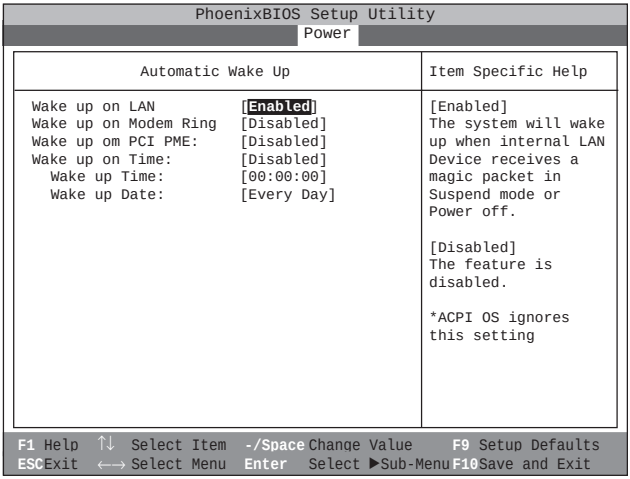
- Power Off
  The computer is turned off when the Power switch is pressed. (Initial value)
- Suspend
  The computer enters the power savings mode when the Power switch is pressed in normal state and returns to normal state when pressed in power savings mode.

Point

- On WindowsNT, do not select [Suspend].
- 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 Suspend 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 Suspend mode when a magic packet is received from the standard LAN port.

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

Point

- This item is not available when Windows 98 runs in ACPI mode.
- 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 Suspend mode when a call terminates on the modem (connected to a serial port).

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

Point

- This item is not available when Windows 98 runs in ACPI mode.
- For PME LAN cards (PCIs), use 'Wake up on PCI PME.'

– Wake up on PCI PME

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

- Disabled (Initial value)
  The computer is not turned on or returned from Suspend mode when a PME signal is issued.
- Enabled
  The computer is turned on or returned from Suspend 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 suspend 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 Suspend mode at a specified time.
- Enabled
  The computer is turned on or returned from Suspend mode at a specified time.

Wake up Date

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

- Every Day, 1 to 31 (Initial value: Every Day)

Point

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

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)

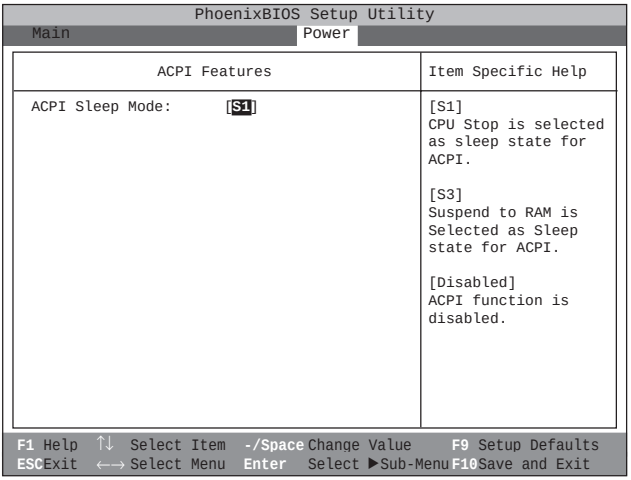
● APM Power Controls

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
  Enables suspend mode or power off by APM supporting OSs.

● 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.



– Sleep mode

This item sets sleep mode for OSs supporting ACPI.

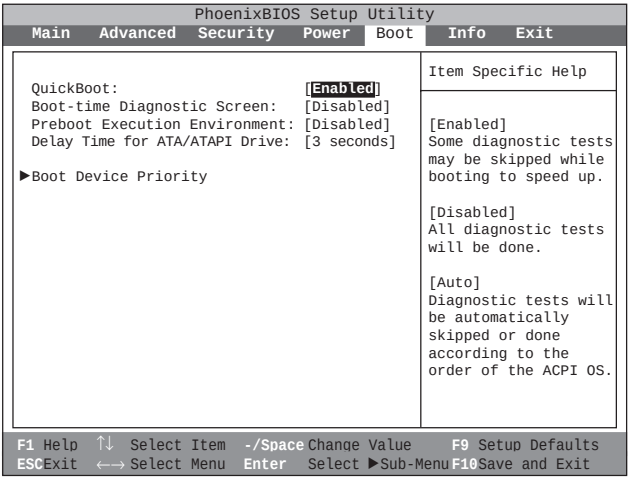
- S1 (Initial value)
  Sets S1 sleep mode (CPU stop).
- S3
  Sets S3 sleep mode (power off other than RAM).
- Disabled
  ACPI is disabled.

Point

If an error occurs in an extension card or peripheral unit when [S3] is selected, set to [S1].

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.

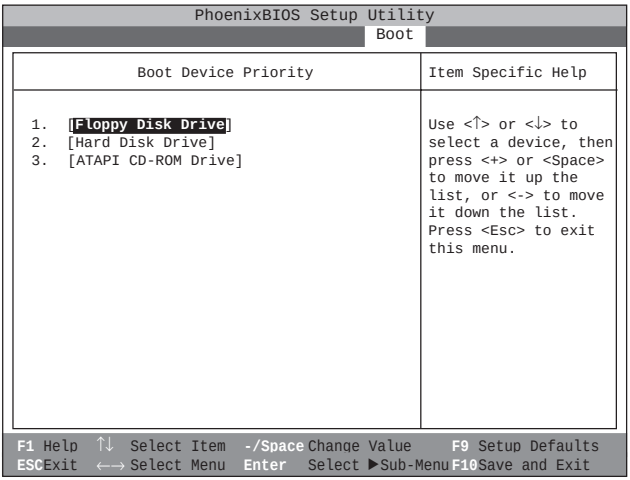
- None
  The computer boots automatic identification as soon as it launches.
- 3, 5, 10, 15, 30 seconds (Initial value: 3 seconds)
  The computer boots automatic identification after a preset time.

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.



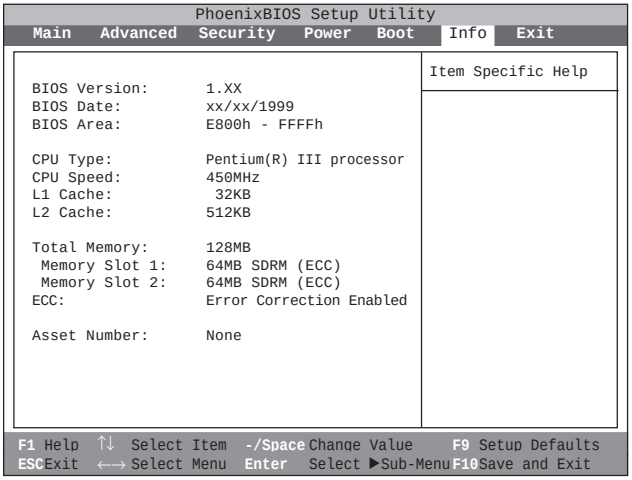
The priority is the order of each item. (The lowest number indicates the highest priority.) Select the device whose priority is to be changed using the ↑ or ↓ key. The selected item moves up to a higher priority when the space is pressed and moves down to a lower priority when the - key is pressed.

Point

For booting from a CD-ROM, a CD-ROM containing an OS capable of being booted is required.
Before turning on or booting the power, set the CD-ROM on the CD-ROM drive.

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 Type**
  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 (Initial value)
  The system detects for a 2-bit error on memory and corrects a 1-bit error on memory in ECC mode.
- Error detection enabled
  The system checks for memory errors but does not correct errors.

● **Asset Number**

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

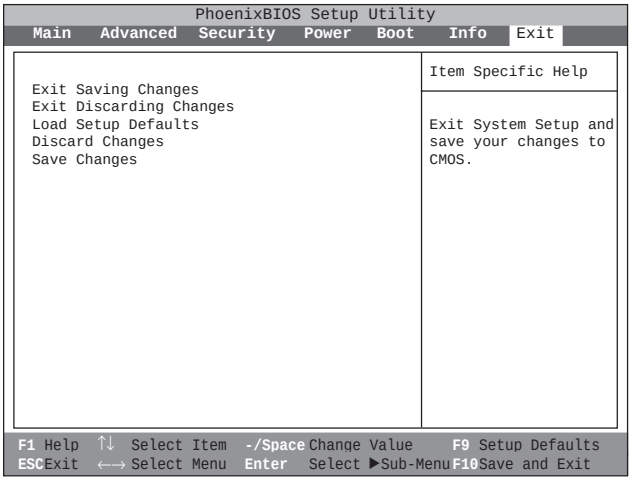
Point

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

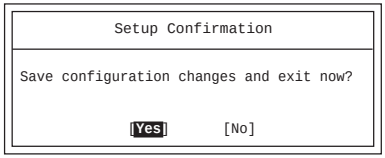
The Exit menu is used to exit the BIOS setup utility and to reset to standard setup values. Select Exit with the ← or → key to display the Exit menu.



Details on setup items

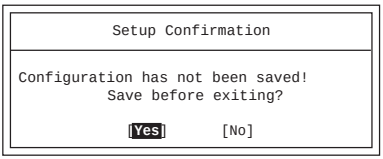
● Exit Saving Changes

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.



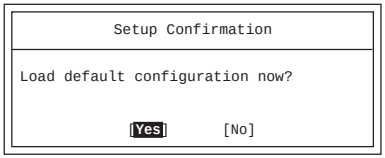
● Exit Discarding Changes

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.



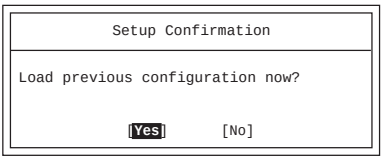
● Load Setup Defaults

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.



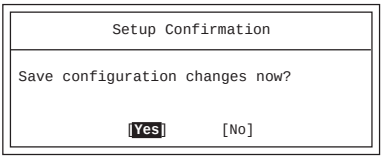
● Discard Changes

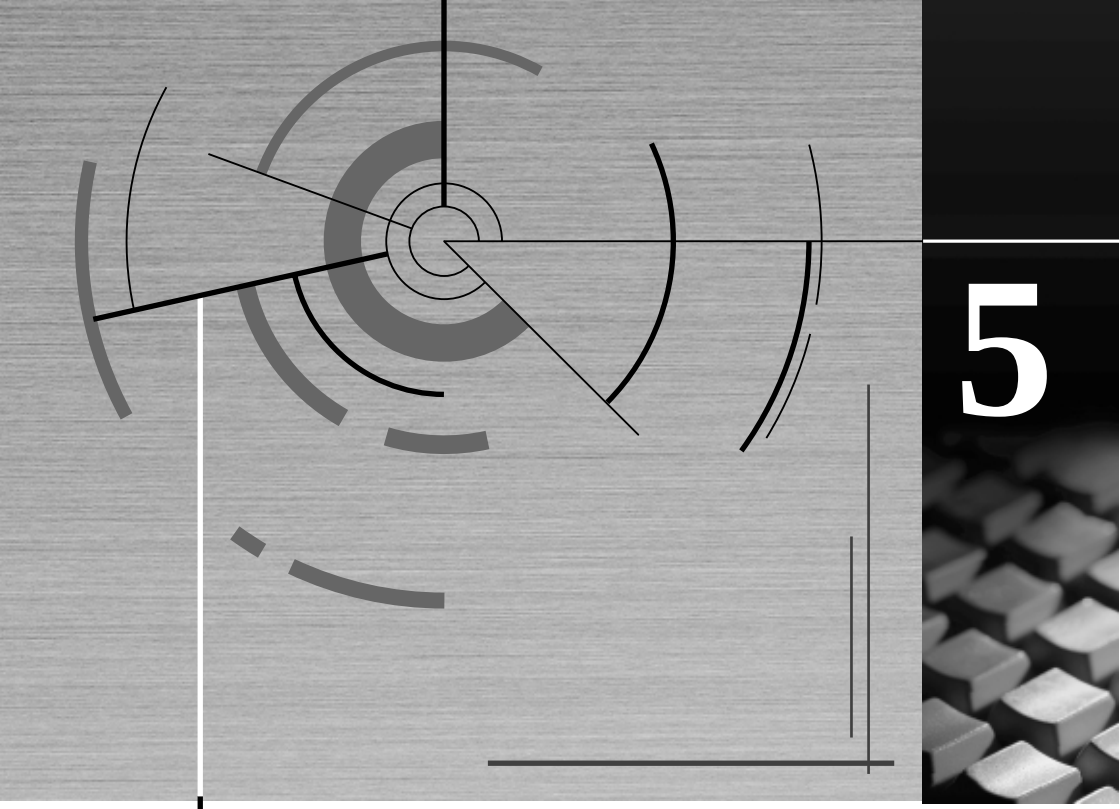
This item loads values before change from the CMOS RAM to all setup items and discards all changes. Press the Enter key to display the message shown below. Select [Yes] and press the Enter key.



● 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 your local distributor.
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 your local distributor.
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 messages is still played, contact a dealer or your local distributor.
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 your local distributor.
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. If this message is still displayed, contact a dealer or the your local distributor.

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.
Security is set for the hard disk.	Change the BIOS setup supervisor password or user password to the password set for hard disk security.
Return all BIOS setup values to defaults.	If this message is still displayed, contact a dealer or the your local distributor.

Error Message	Description and necessary action
Invalid system disk	Replace the disk, and the disk, and then press any key This message is displayed if the computer is turned on with a floppy disk other than a system disk set on 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 if the computer is turned on with a floppy disk other than a system disk set on the floppy disk drive. Remove the floppy disk and press any key.
Operating system not found	The OS was not found. Confirm that the correct drive is set by the BIOS setup utility or that the OS is installed on the specified drive.

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 a dealer or the your local distributor.

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 your local distributor.

- 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 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 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:

- Is the CD-ROM centered on the tray? If not, readjust it, making sure that the label is facing up.
- Is the CD-ROM upside down? If so, turn it right side up so that the label is facing up.
- 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.**

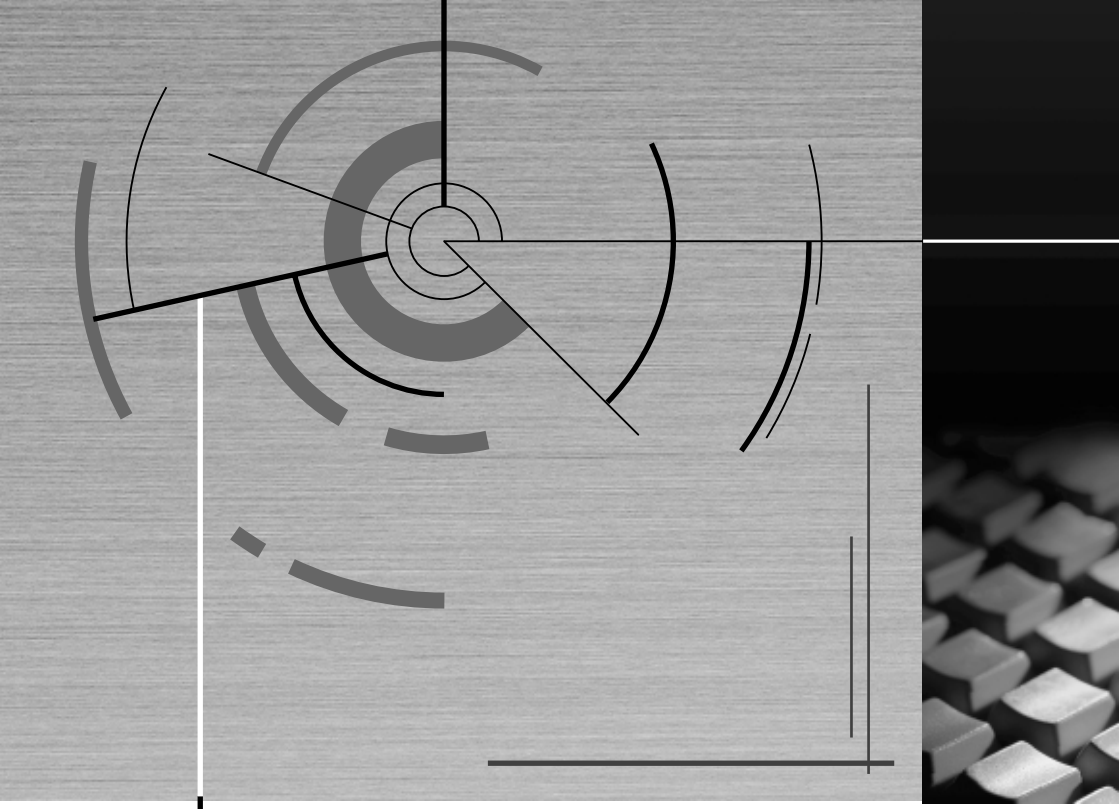
Check the following:

- 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 your local distributor. 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



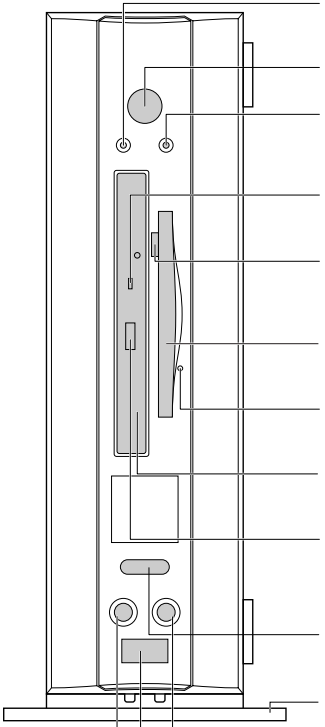
Appendix

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

1 Name and Function of Each Component

This section provides the name and explains the function of each component of the PC main unit, mother board, and keyboard.

Front of the PC main unit



Hard disk access indicator lamp
The lamp is on while data is being written into or read from a hard disk.

Power switch
Press this switch to turn on the PC main unit or suspend the system.

Power lamp
The lamp is on while the PC main unit is on.
The green lamp is on during operation, and the orange lamp is on while in suspension.

Busy lamp (CD-ROM drive-equipped model)
The lamp is on while reading data from a CD-ROM or playing a music CD.

Floppy disk eject button
Press this button to eject a floppy disk.
Do not press the button while the floppy disk access indicator lamp is on.

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 is on while data is written into or read from a floppy disk.

CD-ROM drive (CD-ROM drive-equipped model)
Use the drive to read data or program from a CD-ROM disk or to play a music CD.

EJECT button (CD-ROM drive-equipped model)
This button is pressed to mount or dismount a CD-ROM or a music CD and can be used while the PC main unit is on. Do not press this button while the BUSY lamp is on.

Sound volume
The sound volume of speakers and headphones can be controlled.
Turn to the right to increase sound volume and turn to the left to decrease sound volume.

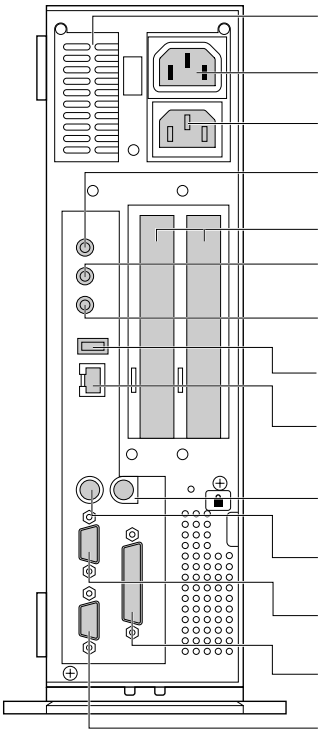
Foot
Install the foot to prevent the PC main unit from overturning if the PC is located vertically.

Microphone terminal
Connect a capacitor microphone on the market.

USB connector
Slide the cover to the left to connect a USB device.

Headphone terminal
Connect a headphone to listen to the sources, such as music CDs, from the computer.

Rear of the PC main unit



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

Outlet
Connect the power cord of a display.

Inlet
Connect the power cord of the PC main unit.

SPK OUT terminal
Connect speakers.

Extension slot

LINE OUT terminal
Connect the input terminal of audio equipment.

LINE IN terminal
Connect the output terminal of audio equipment.

LAN connector
Connect the LAN cable.

USB connector
Connect a USB device.

Mouse connector
Connect the mouse

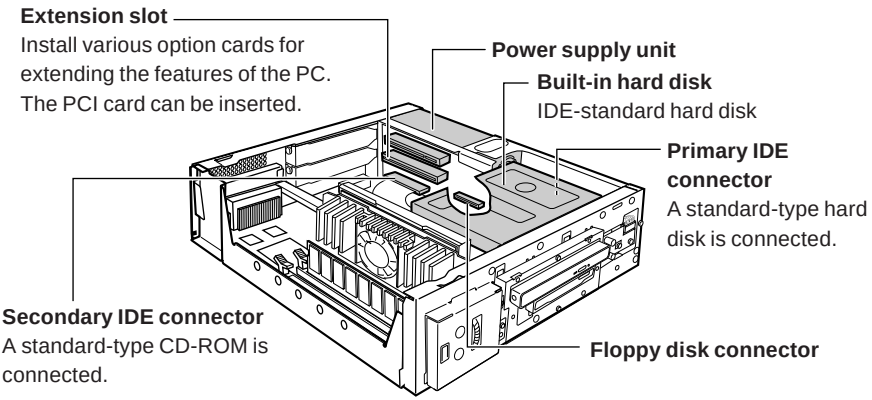
Keyboard connector
Connect the keyboard.

Serial connector
Connect the cables of the device conforming to the RS-232C standard.

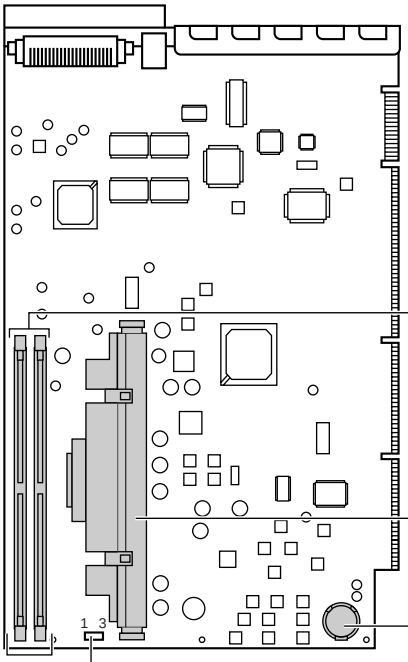
Parallel connector
Connect the cables such as printer or scanner.

Display connector
Connect the display cable.

Inside the PC main unit



Motherboard



DIMM slots
Insert a memory module.
The slots are placed in the order of DIMM1 and DIMM2 from the left, as viewed from the front of the PC main unit.

CPU

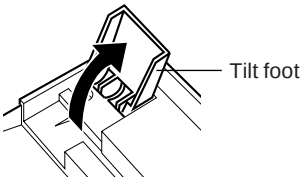
Built-in battery
Use this battery to store individual values set with the clock function of the PC and the BIOS setup. The life span of the battery is about five years under normal conditions (8 hours per day).

SW1 dip switch
Set whether the password is valid or invalid. To prevent a malfunction, use the switch only to change the password setting.

Keyboard

Point

Unfolding the feet on the bottom of the keyboard permits keyboard inclination.



2 Standard Specifications

PC main unit specifications

Product name		DESKPOWER 6000/SS
CPU		Intel Pentium III
BIOS ROM		512KB (FLASH ROM)
System RAM		SDRAM with 168-pin parity (Supporting ECC) Up to 512 MB
Floppy disk		3.5-inch disk drive x 1
Hard disk		6.4GB/8.4GB or higher capacity
CD-ROM		Up to 24-time speed slim type
Graphics		ATI Rage XL AGP2X, 8 MB SGRAM
Sound		Crystal 4280+CS4297 (Integrated PCI)
I/F	Display	D-SUB 15pin (Analog RGB)
	USB	2-port (4-pin) Series A
	Keyboard	PS/2 type Mini DIN 6pin
	Mouse	PS/2 type Mini DIN 6pin
	Serial port	Asynchronous RS-232C x 1 D-sub 9pin
	Parallel port	Conforming to Centronics D-SUB 25pin
	LAN	Intel 82559 100BASE-TX/10BASE-T (WAKEUP ON LAN function provided)
	Audio	Front: Mic-in, Headphone
		Rear: Line-out, Line-in, Speaker-out
Error monitor function		CPU fan stop/voltage abnormality monitor within the mother board
Number of extension slot		2 PCI
Housing		Space saving
Power supply/frequency		100/230 VAC 50/60Hz
Power consumption		Up to 75 W

Product name	DESKPOWER 6000/SS
Weight	About 7.0 kg
Outer dimensions (When placed vertically)	88mm x 330mm x 310mm (W x D x H) (Excluding the foot and projection section)
Operating 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 S82559
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
Sound section	MPU-401	300h-301h to <330h-331h> to 3FEh-3FFh
	Joystick	<200h-207h>, 208-20Fhl)
	Interrupt request level	IRQ <5>, 7, 9, 11, 12, 15
	Sampling rate	5 to 48 kHz

- The factory-set IRQs and I/O port addresses of the PC have been set to the value in < > in the above table.
- 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.

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.

IRQ	Status
0	System timer
1	Keyboard
2	IRQ controller
3	Free
4	Serial port
5	Sound
6	Floppy disk
7	Parallel port
8	Real-time clock
9	Free
10	On-board LAN
11	Free or assigned to USB
12	Mouse
13	Floating-point processor
14	Primary IDE
15	Secondary IDE

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

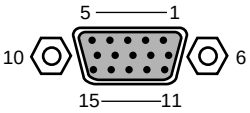
DMA	Status
0	Free
1	Free
2	Floppy disk
3	Free
4	DMA controller
5	Free
6	Free
7	Free

I/O	Status
0200h to 0207h	Joystick
0330h to 0331h	MPU-401
0378h to 037Fh	Parallel port
03F8h to 03FFh	Serial port

Connector specifications

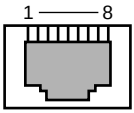
The pin arrangement and signal names of each connector are as follows:

● Display connector



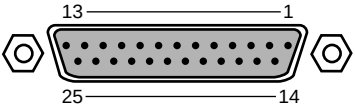
Pin no.	Signal name	Direction	Description
1	RED	Ouput	Red output
2	GREEN	Output	Green output
3	BLUE	Output	Blue output
4	NC	–	Not connected
5 to 8	GND	–	Ground
9	+5V	–	+5V
10	GND	–	Ground
11	NC	–	Not connected
12	SDA	Input/output	Data
13	HSYNC	Output	Horizontal synchronous signal
14	VSYNC	Output	Vertical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

● LAN connector (100BASE-TX/10BASE-T)



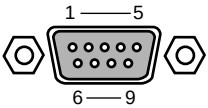
Pin no.	Signal name	Direction	Description
1	TD+	Ouput	Send data+
2	TD–	Output	Send data–
3	RD+	Input	Receive data+
4	NC	–	Not connected
5	NC	–	Not connected
6	RD–	Input	Receive data–
7	NC	–	Not connected
8	NC	–	Not connected

● **Parallel connector**



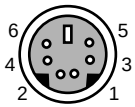
Pin no.	Signal name	Direction	Description
1	STORE	Input/output	Store
2	DATA0	Input/output	Data0
3	DATA1	Input/output	Data1
4	DATA2	Input/output	Data2
5	DATA3	Input/output	Data3
6	DATA4	Input/output	Data4
7	DATA5	Input/output	Data5
8	DATA6	Input/output	Data6
9	DATA7	Input/output	Data7
10	ACK	Input	Acknowledge
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**



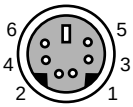
Pin no.	Signal name	Direction	Description
1	CD	Input	Carrier detection
2	RD	Input	Receive data
3	TD	Output	Send data
4	DTR	Output	Data terminal ready
5	GND	–	Ground
6	DSR	Input	Data set ready
7	RTS	Output	Send request
8	CTS	Input	Send enabled
9	RI	Output	Ring indication

● **Mouse connector**



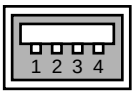
Pin no.	Signal name	Direction	Description
1	DATA	Input/output	Data
2	NC	–	Not connected
3	GND	–	Ground
4	VCC	–	Power supply
5	CLK	Input/output	Clock
6	NK	–	Not connected

● **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.

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.

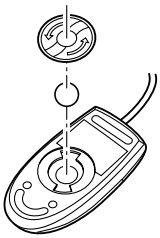
Cleaning the mouse

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.

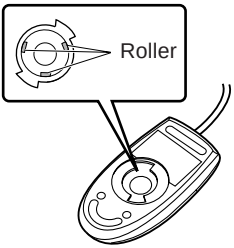


3 Clean the inside of the mouse.

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.
Example: Enter a command as follows and press the [Enter] key.

```
dir  a:
```

Cleaning a CD-ROM drive

The lens in a CD-ROM drive for reading data may become dirty after extended periods of use, thereby preventing efficient reading of data from the CD-ROM. Use the CD-ROM cleaning disk to clean the CD-ROM.

● Item to prepare

CD-ROM cleaning disk.

● Cleaning method

Before using the CD-ROM cleaning disk, remove the plastic ring fixed to the disk.

1 **Switch on the PC.**

2 **Align the special cleaning brush on the rear of the CD-ROM cleaning disk using a small brush included in the CD-ROM cleaning disk case.**

3 **With the red triangle facing you, mount the CD-ROM cleaning disk on the tray until a click is heard.**

4 **Insert the tray.**

5 **Wait about 20 seconds.**
Although unusual sounds may be heard or the disk may spin at high speed, the PC is not defective.

6 **Check that the BUSY lamp is off, then press the EJECT button to dismount the CD-ROM cleaning disk.**

7 **Align the special cleaning brush of the cleaning disk to the hole on the surface of the storage case.**

8 **Restart the PC.**

Cabinet Security

To protect the devices inside the PC (such as a hard disk and CPU), the cover of the PC can be locked.

1 **Remove the upper cover.**

2 **Pull out and secure the security lock.**

3 **Attach the upper cover.**
Thread the security lock through the slit on the rear of the PC main unit.

4 **Padlock the cover with the security lock.**

5 Supplement

USB

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

Point

– To use the USB devices with a Windows 95 models, disable the power saving mode. Set "Disabled" to the "Power Management Mode" in the BIOS setup.
– The dedicated device driver is to be installed 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.
– When using the USB keyboard, connect the mouse to the rear of the PC main unit.

Peripherals and cables

To connect peripherals and cables to your PC, use only Fujitsu brand products.

Notes on using the CRT display

Depending on the CRT display to be used or the settings of the resolution, the thickness of vertical and horizontal lines are viewed differently. Adjust the settings.

Notes on using the liquid-crystal display

A duplicated or triplicated screen may be viewed on a liquid-crystal display. In such a case, set the refresh rate to 60 Hz.

Supporting power saving on a display

- **For Windows 95 models:**

  To use a display non-supporting the power saving function, open “Display Detailed Properties” on the “Screen Properties” and check off the “Power Saving Display” with the “Monitor” tab.

- **Windows 98 models:**

  To use a display non-supporting the power saving function, set “None” to both “System Standby” and “Turning off the Monitor” in the “Power Supply Control Properties”.

Suspend functions (Windows 95 models)

To use the suspend function, install the display driver from the device driver CD included.

Power saving function

If the power saving function operates when using the following files, the application operation becomes unstable. To use the following, disable the power saving function.

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

Replacing a display

When replacing a display with a display having different specifications (particularly liquid-crystal display), a display error (such as no image on the screen) may occur.

When replacing a display, reset the settings of the resolution and refresh rate to the factory-set settings.

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

If no image is displayed on the screen or a resolution that cannot be displayed is found by replacing a display without setting the above, 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.**

Multi-monitor

Using the multi-monitor with the refresh rate set to “Optimum” may change the refresh rate after returning from the power saving mode. Set the refresh rate to a value other than “Optimum” and “Adapter fixed value” for each display.

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 or a Fujitsu brand 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

Fujitsu PC (Asia) Pte Ltd
200 Pandan Loop
#05-03 Pantech 21
The Computer Centre
Singapore 128388

Tel : 65-776 0688
Fax : 65-776 0788

Fujitsu PC (Asia) Pte Ltd
(Malaysia Branch)
8th Floor Wisma Damansara
Jalan Semantan

50490 Kuala Lumpur
Malaysia
Tel : 603-253 3997
Fax : 603-253 4245

Website : www.fujitsu-pc-asia.com