

# DESKPOWER 8000 Series User's Manual

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## DECLARATION OF CONFORMITY according to FCC Part 15 Class B

Responsible Party Name : Fujitsu PC ( Asia ) Pte Ltd  
Website : [www.fujitsu-pc-asia.com/contactus](http://www.fujitsu-pc-asia.com/contactus)  
Declares that product: Model : DESKPOWER 8000  
Complies with Part 15 Class B  
of the FCC Rules.

This device complies with Part 15 Class B of the FCC Rules. Operations are subject to the following two conditions:  
(1) This device must not be allowed to cause harmful interference, (2) This device must accept any interference received, including interference that may cause undesired operation.

# IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions carefully. Save these instructions for future reference.
2. Follow all warnings and instructions marked on the product.
3. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
4. Do not use this product near water.
5. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
6. Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
7. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
8. This product is equipped with a 3-wire grounding-type plug, a plug having a third (grounding) pin. This will only plug into a grounding-type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the purpose of the grounding-type plug.
9. Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
10. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed 15 amperes.
11. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points that could result in a fire or electric shock. Never spill liquid of any kind on the product.
12. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel.

13. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a. When the power cord or plug is damaged or frayed.
- b. If liquid has been spilled into the product.
- c. If the product has been exposed to rain or water.
- d. If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition.
- e. If the product has been dropped or the cabinet has been damaged.
- f. If the product exhibits a distinct change in performance, indicating a need for service.

**14. CAUTION. When replacing the battery, be sure to install it with the polarities in the correct position. There is a danger of explosion if the battery is replaced with an 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 the used battery according to the manufacturer's instructions.**

15. Use only the proper type of power supply cord set (provided in your accessories box) for this unit. It should be a detachable type: UL listed/CSA certified, BS1363,ASTA,SS145 certified, rated 10A 250V minimum, VDE approved or its equivalent. Maximum length is 15 feet (4.6 meters).

## ■ Greetings

We thank you for purchasing the Fujitsu DESKPOWER 8000 personal computer.

This manual explains how to use the hardware of the DESKPOWER 8000.

Please read this manual carefully to ensure correct use of the PC.

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.




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




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 Me refers to Microsoft® Millennium operating system.

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

Windows 2000 refers to Microsoft® Windows® 2000 operating system.

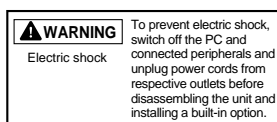
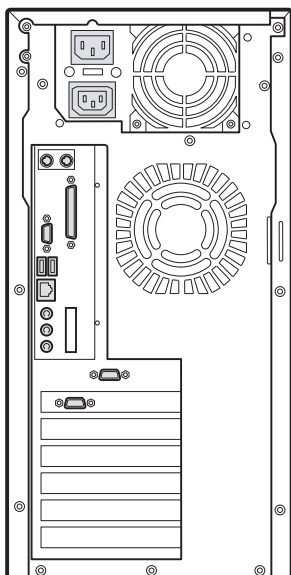
Windows NT refers to Microsoft® Windows NT® Workstation operating system Version 4.0.

The terms “your PC,” “the PC,” “your PC main unit,” and “the PC main unit” refer to the DESKPOWER 8000.

## ■ 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



- 115 of voltage switch in the power supply corresponds to 100-120V.
- 230 of voltage switch in the power supply corresponds to 200-240V.
- 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 Introduction

This chapter provides basic information on the PC, such as the names and functions of individual parts, and also explains the basic operation of the PC, such as turning the power on or off.

## Chapter 2 Hardware

This chapter provides basic information on how to handle the components installed (or can be installed) on the PC.

## Chapter 3 Troubleshooting

This chapter explains how to respond to a problem occurring in the PC. read wherever applicable.

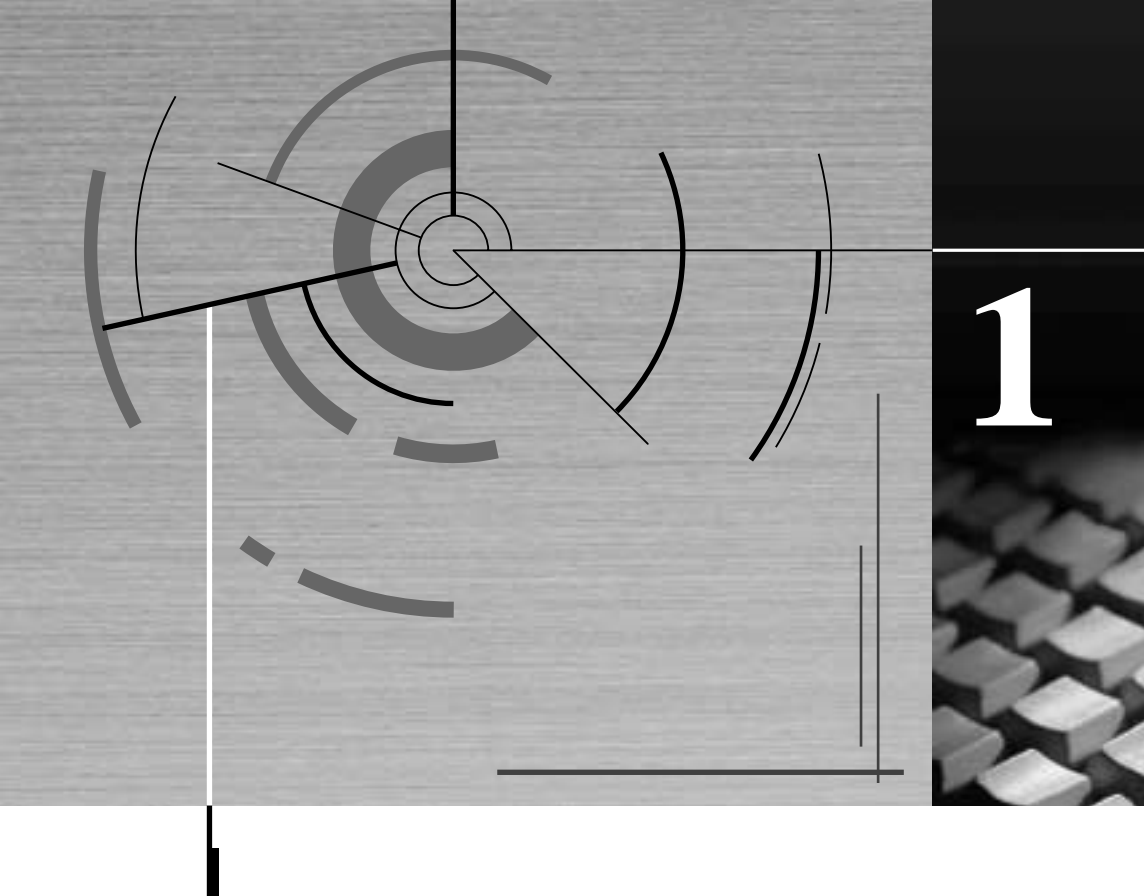
## Chapter 4 Technical Information

This chapter explains the specifications and other information relating to this PC.

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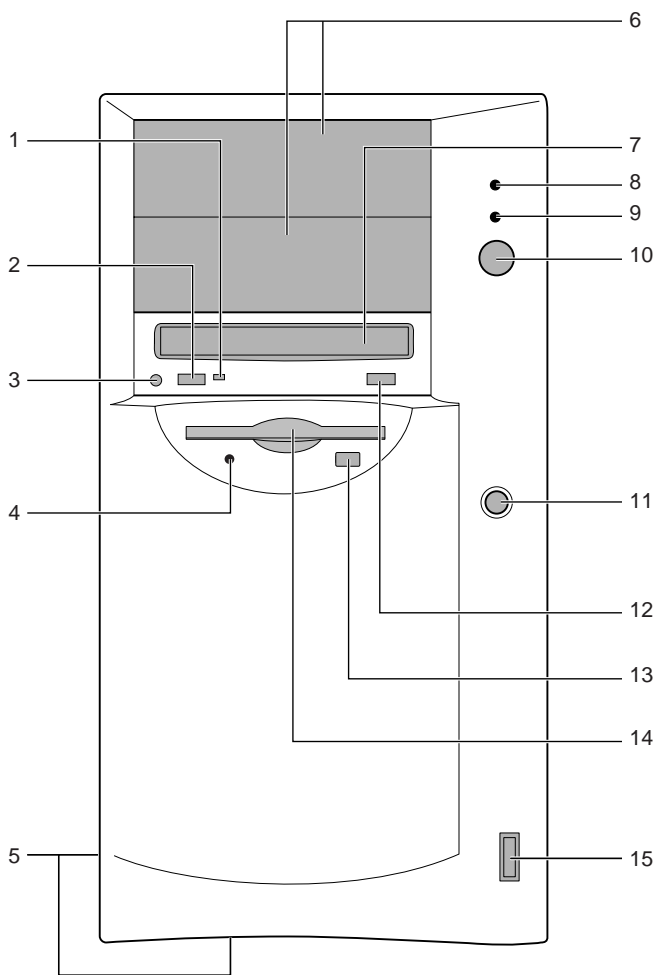
# Chapter 1 Introduction

This chapter provides basic information on the PC, such as the names and functions of individual parts, and also explains the basic operation of the PC, such as turning the power on or off.

# 1 Part Names and Functions

This section explains the names and functions of the parts of the PC unit and the motherboard.

## ■ Front of the PC unit



**1 Busy lamp**

This lamp lights up while data is read from a CD-ROM or music CD is played.

**2 Headphone volume (only for music CDs)**

Use this control to adjust the volume of headphones.

**3 Headphone jack (only for music CDs)**

When listening to a music CD with a headphone, plug it to this jack.

**4 Floppy disk access lamp**

This lamp lights up while the floppy disk is accessed.

**5 Venthholes (on the side panel and the bottom of the front panel)**

These ventholes take air in for cooling inside.

**6 Front access bay**

Connect optional devices, such as an internal hard disk and a magneto-optical disk drive).

**7 CD-ROM drive**

Insert a CD-ROM into this drive to read data or programs, or insert a music CD for playback.

**8 Hard disk access lamp**

This lamp lights up while the hard disk is accessed.

**9 Power lamp**

This lamp lights up in green when the PC is on.

This lamp lights up in orange in the standby (power-saving) mode.

**10 Power switch**

Press this switch to turn on the PC or set the system to the standby (power-saving) mode.

**11 Reset switch**

Press this switch to delete data from the memory to re-load programs including OS.

**12 Eject button**

Press this button to insert or remove a CD-ROM.

**13 Floppy disk eject button**

Press this button to remove a floppy disk from the floppy disk drive.

Do not press this button when the floppy disk access lamp is on.

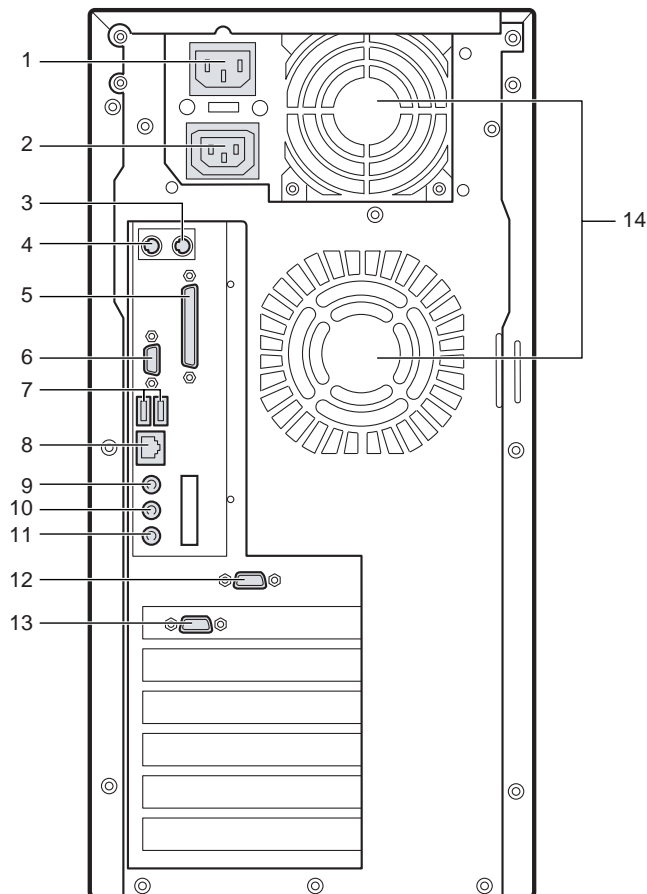
**14 Floppy disk drive**



Writes data to or read data from a floppy disk.

**15 USB connector**

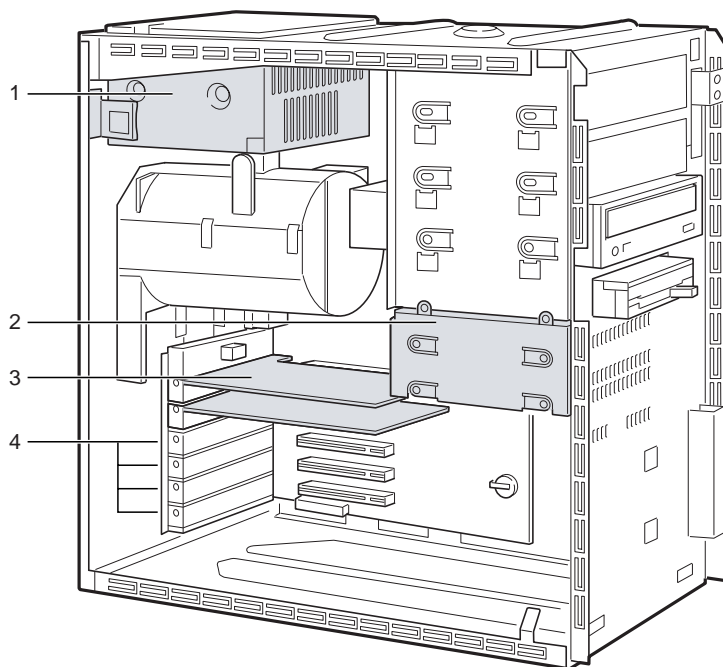
Connect a USB peripheral device.

■ Back of the PC unit



- 1 Inlet**  
Connect the power cable.
- 2 Outlet**  
Connect the power cable of the display to this outlet.
- 3 Mouse connector (  : MOUSE)**  
Connect a mouse.
- 4 Keyboard connector (  : KEYBOARD)**  
Connect the keyboard.
- 5 Parallel connector (PRINTER)**  
Connect a printer cable to this connector.
- 6 Serial connector (RS-232C (1))**  
Connect a cable for an RS-232C-based device (e.g. modem).
- 7 USB connector**  
Connect a USB peripheral device.
- 8 LAN connector**  
Connect a LAN cable.
- 9 LINE OUT terminal**  
A terminal for sound output. Connect the input terminal of audio equipment to this terminal.  
When connecting speakers, use those with a built-in amplifier.
- 10 LINE IN terminal**  
A terminal for sound input. Connect the output terminal of audio equipment to this terminal.
- 11 MIC IN terminal**  
Plug a capacitor microphone to this jack.
- 12 Serial connector (RS-232C (2))**  
Connect a cable for an RS-232 C-based device (e.g. modem).
- 13 CRT connector**  
Connect the cable of an analog RGB display.
- 14 Venthole**  
An opening provided to let heat go out of the PC.

## ■ Inside the PC unit



**1 Power supply unit**

**2 Internal hard disk bay**

Install an IDE-compliant internal hard disk. You can replace the standard internal hard disk by a large-capacity one.

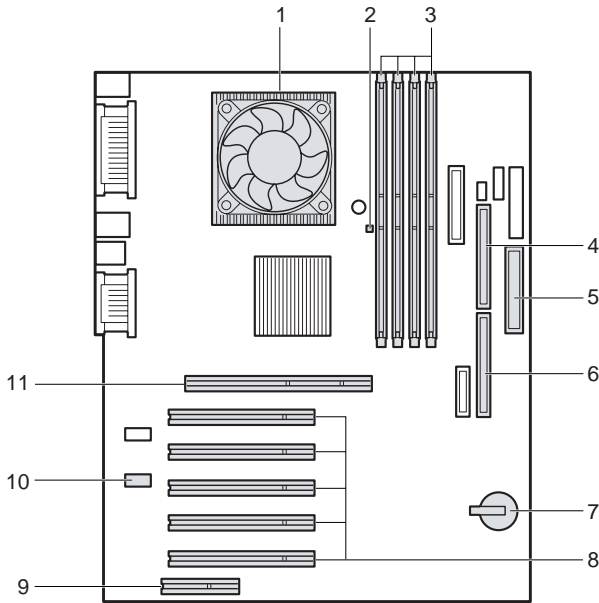
**3 Display card**

**4 Expansion card slots**

Insert optional expansion cards to these slots.

This slot accommodates a PCI card.

## ■ Motherboard



**1 CPU**

**2 Memory power LED**

Lights up when memory power is on.

**3 Memory slots**

Memory modules are inserted into these slots. These slots are marked RIMM1-RIMM4 in this order from the left in the figure above.

**4 Secondary IDE connector**

Connect a CD-ROM drive cable to this connector.

**5 Floppy disk drive connector**

Connect a floppy disk drive cable to this connector.

**6 Primary IDE connector**

Connect a cable of the hard disk running OS.

**7 Internal battery**

This battery is used to save setup values of the PC. The life is about 5 years under normal use.

**8 PCI slots**

Insert PCI cards. PCI slots, 1 to 5 are arranged in this order from the top in the figure above.

**9 CNR connector**

Not available with your PC.

**10 CD IN connector (black)**

Connect an AUDIO cable of CD-ROM drive to this connector.

**11 AGP connector**

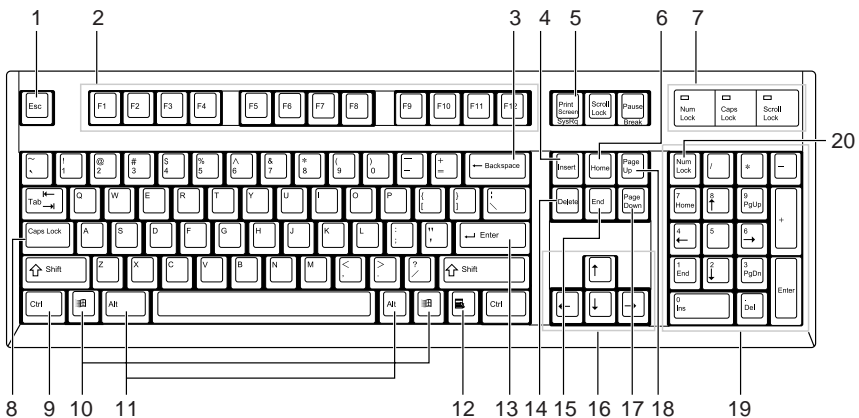
Connect a display card.

## 2 Keyboard

This section explains the functions of the keys on the keyboard.

### ● Point

- The functions assigned to the keys vary depending on an OS or program running on your PC. For details, refer to the manual for the OS or program.



#### 1 **Esc (escape) key**

Press the Esc key to terminate the execution of software.

#### 2 **F (function) keys**

These F keys are assigned specific functions for each application.

#### 3 **Backspace key**

Press the Backspace key to move the cursor to the left while deleting characters.

#### 4 **Insert key**

Press the Insert key to switch between character insert mode and overwrite mode.

#### 5 **Print Screen key**

Press the Print Screen key to capture a screenshot in the clipboard.

#### 6 **Home key**

Press the Home key to move the cursor all at once to the beginning of the current line or text.

#### 7 **Indicators**

Each of these indicators turns on when the corresponding key (or a combination of keys) ([Num Lock], [Caps Lock], or [Scroll Lock]) is pressed to enable the key function. When the key is pressed again, the indicator turns off and the key function is disabled.

## 8 Caps Lock/Alphanumeric key

Use the Caps Lock/Alphanumeric key to type alphabetical characters.

Press [Caps Lock] to switch between uppercase and lowercase.

## 9 Ctrl (control) key

Use the Ctrl key in combination with another key. Its function varies with each application.

## 10 Windows key

Press the Windows key to display the “Start” menu.

## 11 Alt key

Use the Alt key in combination with another key. Its function varies with each application.

## 12 Application key

This key has the same function as clicking the right mouse button.

Press this key to display the shortcut menu of the selected item.

## 13 Enter key

The Enter key is also referred to as the Return or Line Feed key.

Press this key to perform line feed or execute a command.

## 14 Delete key

Press the Delete key to delete a character. Pressing the Delete key together with the [Ctrl] and [Alt] keys resets the PC.

## 15 End key

Press the End key to move the cursor all at once to the end of the current line or text.

## 16 Cursor keys

Press each of these keys to move the cursor in the desired direction.

## 17 Page Down key

Press the Page Down key to display the next page (screen).

## 18 Page Up key

Press the Page Up key to display the previous page (screen).

## 19 Ten-key pad

When the “Num Lock” indicator is on, numerals can be entered from the Ten-key pad.

When the “Num Lock” indicator is off, the function indicated on the lower part of each keytop is enabled.

## 20 Num Lock (numerical lock) key

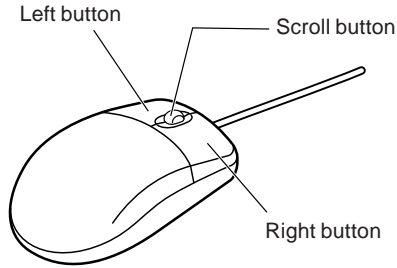
Press the Num Lock key to change the Ten-key pad functions.

## ◎ Point

- To tilt the keyboard, pull up the tilt foot on the both sides of the underside of the keyboard.



# 3 Mouse



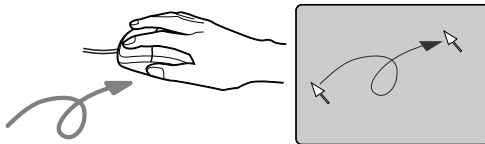
## Point

- Clean the mouse regularly.

## Using the mouse

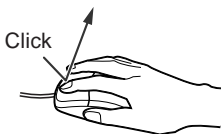
### ● Moving the mouse

Lightly hold the mouse and place your index and middle fingers on the left and right buttons on the mouse. Slide and move the mouse over a plane surface, such as a desktop. As you move the mouse, an arrow (called the mouse pointer) moves in the same way on the screen. Move the mouse and see how the mouse pointer moves.



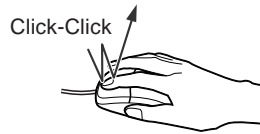
### ● Using the mouse buttons

#### Clicking



Clicking is a series of action of pressing and releasing the left mouse button once. Clicking the right mouse button is particularly called "right-clicking."

## Double-clicking



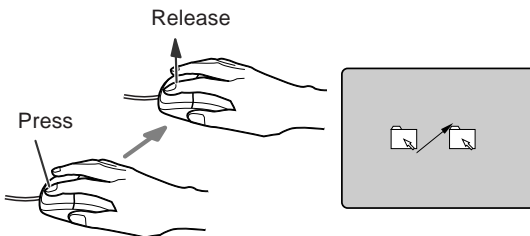
Double-clicking is a series of action of pressing and releasing the left mouse button twice.

## Pointing



Pointing is an action of moving the mouse pointer to an object or item such as a menu. If the pointed menu item has subordinate items ( is displayed at the right end), the items are displayed.

## Dragging



Dragging is an action of moving the mouse while holding down the left mouse button and release the button at a desired position.

## Scrolling

- The scroll wheel is used to scroll the screen. This wheel can also be used as the third button.
- The scrolling function can be used on applications that support a scroll wheel.

## ◎ Point

- The button operation explained above is applicable when “right-handed use” is selected in the “Mouse Properties” dialog box.

## 4 Installation

This section explains how to install your PC and also provides note on using the PC.

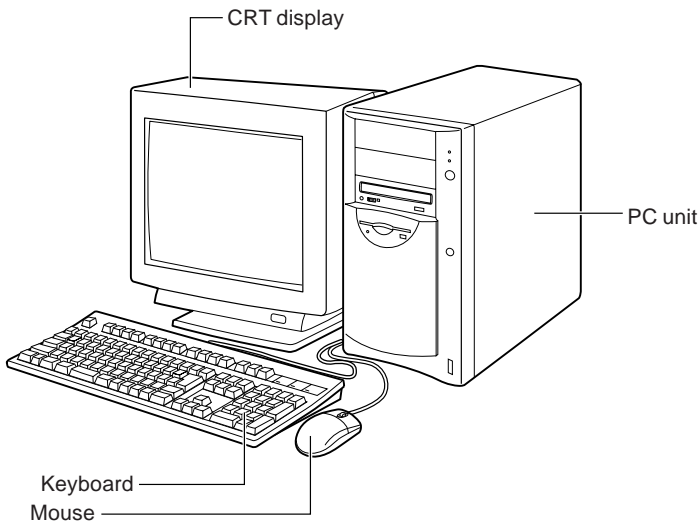
### ■ Installation area

Do not install your PC in the following areas.

- Areas that are humid, dusty, or subjected to oil mist.
- Poorly ventilated areas
- Areas where fire is used
- Bathrooms and other areas where water may splash
- Areas exposed to direct sunlight or near a heater and other areas with high temperatures
- Areas with temperatures below 10°C
- Areas where you may trip on a cable.
- Areas subjected to a strong magnetic field, such as near a television or speaker.
- Unstable areas with violent vibration or on a slanted surface

### ■ Example of installation

Install your PC as shown in the figures below.



### ◎ Point

- When installing your PC, be sure not to block the ventholes on the sides, bottom, and back of the PC unit.

## 5 Connection

Connect the display, keyboard, and power cables to your PC unit.

### CAUTION

---

Electric shock



- Before turning on the power, ground devices whenever necessary. Otherwise, an electric shock may occur. Do not connect a grounding wire to gas piping. Otherwise, a fire may occur.

Electric shock



- Before connecting or disconnecting the display, keyboard, mouse, LAN cable, or power cable, turn off the PC and all device power connected to it, and unplug them. Otherwise, an electric shock may occur.

Electric shock



- Use a Fujitsu-supplied display, keyboard, and mouse. Otherwise, an electric shock, a fire or fault may occur.

### WARNING

---

Failure



- Connect the cables correctly. An incorrect connection could result in a fault in the PC unit or peripheral devices.

Fire



- For a device having a service outlet, connect only devices specified in the manual to the outlet. Otherwise, a fire or fault may occur.

Injury

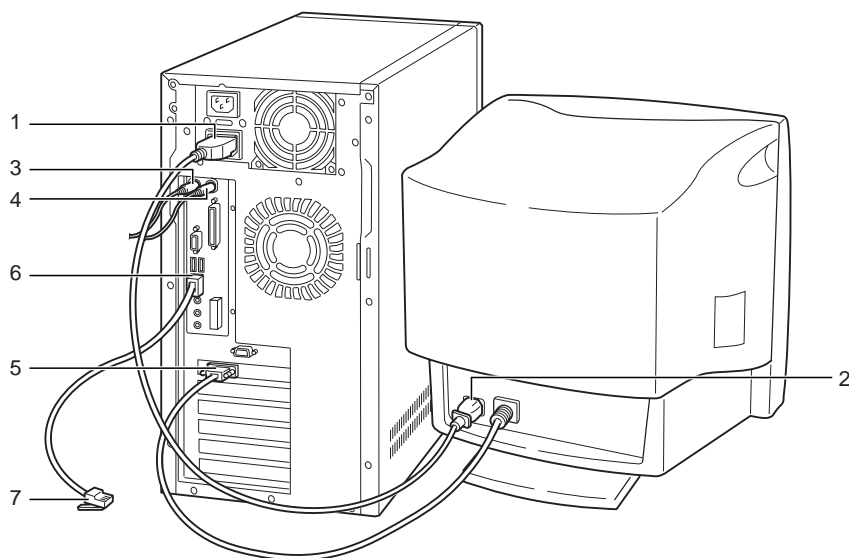


- When assessing the PC board, touch the specified areas only. Otherwise, personal injury or faults may occur.

## ■ Connecting the display, keyboard, mouse, and LAN cables

### ◎ Point

- This section explains how to connect your display and PC unit so that the display is powered by the PC unit. In this case, the power cable attached to the display is not used.
- Use an optional twisted pair LAN cable if required.



#### 1 Connect the power cable to the outlet.

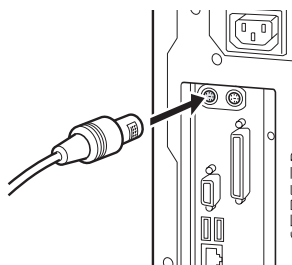
Connect the power cord one end of the power cable (for CRT), which is supplied with the PC unit, to the outlet of the PC unit.

#### 2 Connect the power cable to the display.

Connect the power cord the other end of the power cable (for CRT), which is supplied with the PC unit, to the inlet on the back of the display.

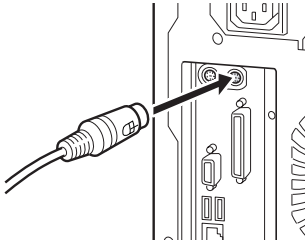
#### 3 Connect the keyboard.

With the mark on the connector of the keyboard cable facing right, plug the keyboard connector to the back of the PC unit as indicated by the keyboard label color on the back.



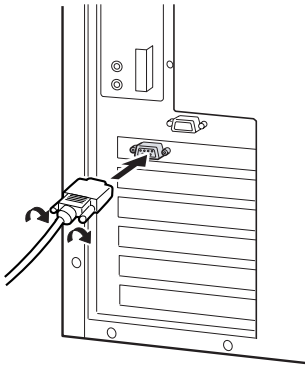
#### 4 Connect the mouse.

With the mark on the connector of the mouse cable facing right, plug the mouse connector to the back of the PC unit as indicated by the mouse label color on the back.



#### 5 Connect the display cable to the PC unit.

Connect the display cable connector to the display connector on the back of the PC unit and tighten the cable connector screws.



If you have not set up Windows, proceed to “Connecting the power cable”.

Connecting a LAN cable before making Windows setup may result in an error during setup.

The LAN cable must, therefore, be connected after you have completed the setup.

#### 6 Connect the LAN cable.

Connect the connector on the other end of the twisted pair cable to the LAN connector on the back of the PC unit.

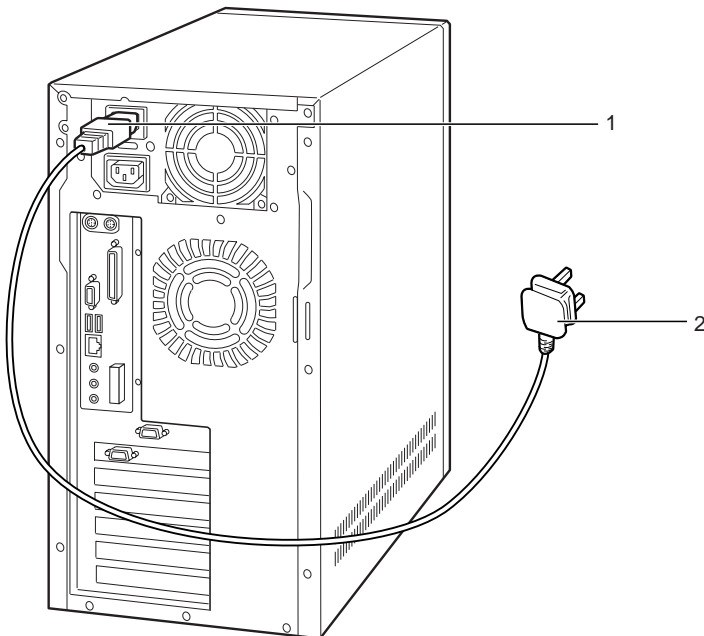
#### 7 Connect the LAN cable.

Connect the connector on one end of the twisted pair cable (to be purchased separately) to a network connector such as a hub unit.

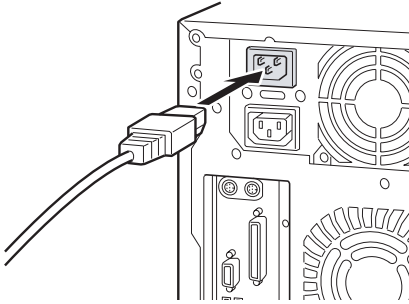
## ■ Connecting the power cable

After connecting the display and other peripheral devices, connect the power cable of the PC unit. Note the following:

- Do not connect or disconnect the plug with wet hands.
- Do not damage or modify the power cable.
- Do not compress, pull, bend, twist, or heat the power cable.
- Do not use the power cable if it or the plug is damaged or connection to the outlet is not secure.
- If there is dust on the electrodes of the plug or slots in the outlet, wipe it off with a dry cloth.
- Connect the power cable to a 230V AC outlet.
- Do not include the power cable in a star-burst connection. Do not entangle the power cable with the keyboard or mouse cable.
- In the event of lightning, disconnect the power cable from the outlet.
- When connecting the power cable to a two-pin outlet, use the adapter plug supplied with the power cable to connect the grounding wire.
- When disconnecting the power cable, pull on the plug (not the cable).
- Fully insert the cable plug in the outlet.
- If the PC is is not to be used for an extended time, disconnect the power cable from the outlet.



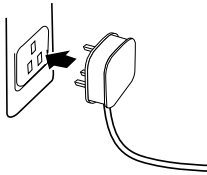
- 1 **Connect the power cable plug to the inlet on the back of the PC unit.**



- 2 **Connect the power cable plug to an outlet.**

Connect the plug on the other end of the power cable to an outlet. When connecting the power cable to a two-pin outlet, attach the adapter plug supplied with the power cable to the cable plug and then connect to the outlet.

Connect the grounding wire, extending from the adapter plug, to the grounding terminal and secure it by tightening the screw.



## 6 Turning On the Power

This section explains how to turn on the power.

### ■ Notes on power-on

- If nothing is displayed on the screen, check if the display cable is properly connected.
- In the case that the screen is not displayed in the center, adjust it using the display.
- When the power-on self-test (POST) detects an error, an error message is displayed.
- When the power cable of the display is connected to the PC, the display power is turned on or off automatically when the PC power is turned on or off. Therefore, once the power switch on the display is pressed, subsequent operation is not necessary.
- The display power is automatically turned on each time the power switch on the PC is pressed as in Step 2 below. However, it is required to power on peripheral devices other than the display before powering on your PC.
- When the display power is not automatically turned on with the PC power, you are required to turn on it before turning on the PC.
- To turn off the PC power just after turning it on, wait until the OS starts and turn it off following the instructions described in "Turning Off the Power".

### ■ Turning on the power

#### WARNING

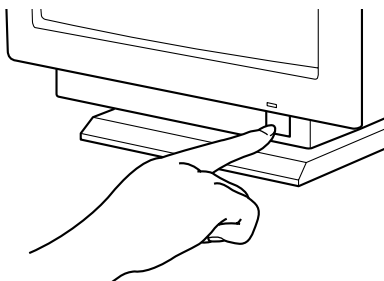
Prohibited action



- Do not carry or subject the PC to shock or vibration while the PC is on. Otherwise, a fault may occur.

#### 1 Press the power switches on the display and other peripheral devices.

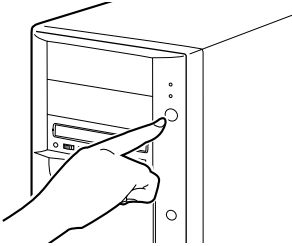
At this time, nothing is displayed on the screen.



## 2 Press the power switch on the PC.

The power lamps on the display and PC light up.

After the PC is turned on, the “FUJITSU” logo appears, during which power-on self-test is being performed, then the system starts up.



# 7 Turning Off the Power

This section explains how to turn off the power.

## ■ Notes on power-off

- Before turning off the power, terminate all work and save data.
- Before turning off the power, confirm that the floppy disk and the hard disk access lamps are off. If the power is turned off while the lamps are on, data being processed may not be saved or data on the floppy disk or hard disk may be damaged.
- To turn off your PC and back on again, wait for at least 10 seconds.

## ■ Turning off the power

### ● For Windows Me or 98 model:

- 1 Click the [Start] button, then click [Shut down].

The [Shut down Windows] dialog box appears.

- 2 Click [Shut Down] from the pull down item.

The power is automatically turned off.

### ● For Windows NT model:

- 1 Click the [Start] button, then click [Shut down].

The [Shut down Windows] dialog box appears.

- 2 Click [Shut Down the Computer], then click [Yes].

Press the power button to turn it off.

### ● For Windows 2000

- 1 Click the [Start] button, then click [Shut down].

The [Shut Down Windows] dialog box appears.

- 2 Select [Shutdown] and click [OK].

The power is automatically turned off.

## ◎ Point

- The power can also be turned off in the following procedure.
  - 1 Press the [Ctrl] + [Alt] + [Delete] keys.

The [Windows security] dialog box appears.
  - 2 Click [Shutdown].

The [Shutdown Computer] dialog box appears.
  - 3 Select [Shutdown] and click [OK].

The power is automatically turned off.

## 8 Resetting

After software installation or when software hangs, the PC must be reset (restarted). This section explains how to reset (restart) the PC.

### ⦿ Point

---

- Resetting (restarting) the PC clears data in the memory. Save data before resetting (restarting) the PC.
- 

### ■ Resetting the PC

#### ● For Windows Me or 98 model

- 1 Click the **[Start]** button, then click **[Shut down]**.  
The [Shut Down Windows] dialog box appears.
- 2 Click **[Restart]** from the pull down item.  
The system is reset (restarted).

#### ● For Windows NT model

- 1 Click the **[Start]** button, then click **[Shut down]**.  
The [Shut Down Windows] dialog box appears.
- 2 Click **[Restart the computer]**, then click **[Yes]**.  
The PC is reset (restarted).

### ⦿ Point

---

- The PC can also be reset (restarted) in the following procedure.
    - 1 Press the **[Ctrl] + [Alt] + [Delete]** keys.  
The [Windows NT security] dialog box appears.
    - 2 Click **[Shutdown]**.  
The [Shutdown Computer] dialog box appears.
    - 3 Click **[Shutdown and Restart]**, then click **[OK]**.  
The PC is reset (restarted).
-

## ● For Windows 2000

### 1 Click the [Start] button, then click [Shut down].

The [Shut Down Windows] dialog box appears.

### 2 Click the [Restart] button, then click [OK].

The PC is reset (restarted).

## ◎ Point

---

- The PC can also be reset (restarted) in the following procedure.

#### 1 Press the [Ctrl] + [Alt] + [Delete] keys.

The [Windows security] dialog box appears.

#### 2 Click [Shutdown].

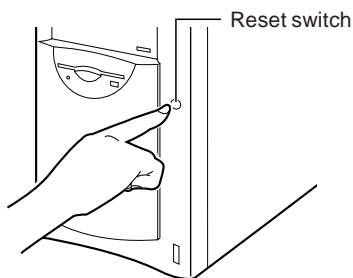
The [Shut Down Windows] dialog box appears.

---

## ● Hard resetting

A hard reset is an action to reset your PC using the Reset switch. It is used to initialize peripheral devices, such as optional cards, hard disk drive, and floppy disk drive.

### 1 To perform a hard reset, press the Reset switch on your PC about 1 second and then release it.



## ◎ Point

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- Hard reset your PC if it hangs for some reason and cannot be reset on the OS.
  - Avoid turning off your PC at once when it hangs, or the hard disk may be damaged.
-

## 9 CDs

This section explains how to handle, insert, and remove CDs.

### ■ Notes on handling

To prevent faults, note the following when handling CDs.

#### ● Notes on handling CDs

- Do not use a ball-point pen or pencil on the label (printed side). Do not affix a label.
- Do not touch or damage the data side.
- Do not bend or compress them.
- If the CD gets dirty or wet, wipe it with a dry soft cloth from the center to the edge. Do not use a cleaner.
- Keep them dry.
- Do not place them in an extreme temperature environment.
- Do not place them in a humid and dusty environment.

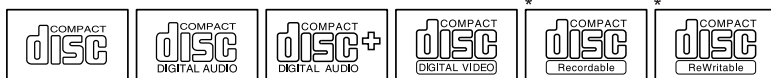
#### ● Notes on using the drive

- Do not use CDs that do not meet the requirements in “Notes on handling CDs,” or those warped, damaged, or cracked. Otherwise, a fault may occur. Faults caused by the use of a defective CD shall not be covered by the warranty.
- This PC can use circular CDs only. Do not use odd-shaped CDs. Otherwise, a fault may occur. Faults caused by the use of an odd-shaped CD shall not be covered by the warranty.
- Use of a commercially available CD-ROM cleaning disc may place dust on the lens. Do not use a CD-ROM cleaning disk.

### ◎ Point

- CD-ROM is a compact disc (CD) that stores PC information (such as characters) rather than music. ROM stands for Read Only Memory. This PC can read data from CD-ROMs but cannot write data, except when CD-R/RW is selected as a custom-made option.
- This PC can use CDs having any of the following marks. Do not use CDs without a mark. Otherwise, a fault may occur.

An additional application may be necessary to use particular types of CDs.



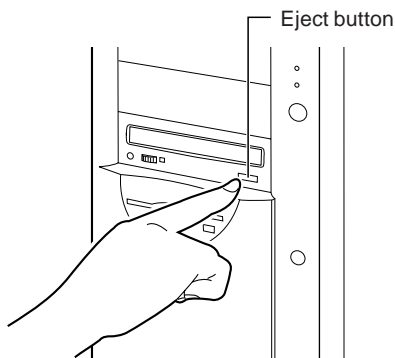
\* ASTERISKED CDS CAN ONLY BE USED ON CD-R/RW DRIVES TO WRITE DATA.

## ■ Inserting or Removing CD

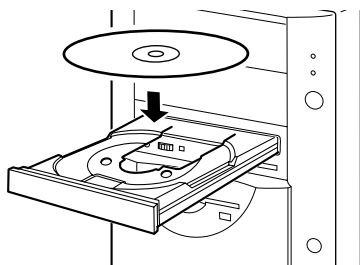
### ● Inserting a CD

#### 1 Press the eject button.

This ejects the tray to mount a CD.



#### 2 With the label side of the CD facing upward, put the CD in the center of the tray.



#### 3 Press the eject button.

The tray enters the unit to load the CD.

### ◎ Point

- The BUSY lamp lights up when the CD is loaded. Proceed to the following operation after making sure that the BUSY lamp turns off.

### ● Removing the CD

Confirm that the Busy lamp is off, then press the Eject button to remove the CD.

# 10 Floppy Disk

Floppy disks are used to store data and programs. This section explains how to handle, insert, and remove floppy disks.

## ■ Notes on handling

To prevent faults, note the following when handling floppy disks.

- Keep them dry.
- Do not open the shutter to touch the disk inside.
- Do not bend or compress them.
- Keep them away from magnetism.
- Do not drop them.
- Do not place them in an extreme temperature environment.
- Do not place them in a humid and dusty environment.
- Do not overlay too many labels (causes clogging in the drive).
- Keep the hard disk free from condensation or moisture.

## ■ Inserting or removing a floppy disk

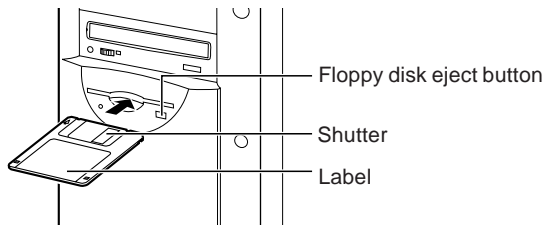
### ◎ Point

- Use DOS/V formatted floppy disks. Operation with other types of floppy disks is not guaranteed.

### ● Inserting a floppy disk

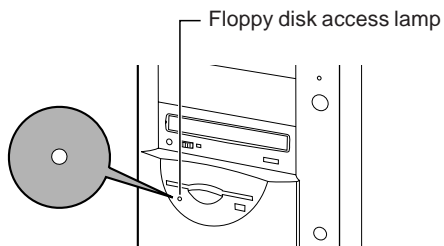
With the label side of the floppy disk facing upward, insert the floppy disk (from the shutter side) into the drive.

The floppy disk eject button pops out with a click.



## ● Removing the floppy disk

- 1 Confirm that the floppy disk access lamp is off.



## ◎ Point

---

- Do not press the floppy disk eject button while the floppy disk access lamp is on. The data on the floppy disk may be damaged.
- 

- 2 Press the floppy disk eject button.

The floppy disk is ejected.



# 2

## Chapter 2 Hardware

This chapter provides basic information on how to handle the components installed (or can be installed) on the PC.

# 1 Before Installing a Peripheral Device

This section gives an outline of peripheral devices.

## ■ What are peripheral devices?

This PC can accommodate various peripheral devices to expand its functions.

Some peripheral devices may not be used on your PC.

### CAUTION

---

Electric shock



- Use only peripheral devices recommended by Fujitsu. Otherwise, an electric shock, a fire or fault may occur.

### WARNING

---

Injury



Failure



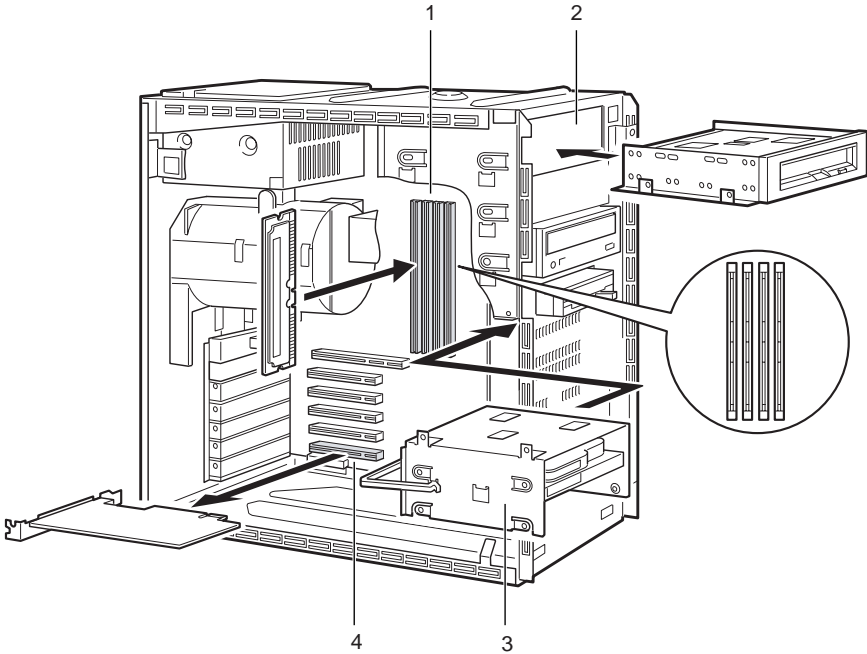
- When installing or removing a peripheral device, do not remove screws other than those specified in the manual. Otherwise, personal injury or faults may occur.
- Read this manual carefully to ensure correct cable connections. An incorrect connection could result in a fault in the PC or peripheral devices.

## ■ Notes on handling

When installing a peripheral device, note the following.

- Whenever possible, use peripheral devices supplied by Fujitsu.  
Malfunction or damage caused by the use of a third-party product instead of the Fujitsu device shall not be covered by the warranty.
- Before using a peripheral device in a category for which Fujitsu does not supply genuine products, contact the third-party manufacturer to ask whether the device is compatible with the PC.
- Have you finished Windows setup?  
Installing a peripheral device on the PC before setup may cause the setup program to fail.
- Install one peripheral device at a time.  
Installing more than one peripheral devices at a time may cause driver installation to fail.
- Turn off the PC and connected devices.  
For safety, be sure to unplug the PC and connected devices. Even if the PC is turned off, an electric current flows in the PC unit.
- Do not start work immediately after turning off the power.  
Components inside the PC may be still hot. After turning off the power and unplugging the PC, wait for about 10 minutes before starting work.
- Do not disassemble the power supply unit.  
The power supply unit is a box-shaped component on the back inside the PC.
- Be careful with the cables and components inside.  
Do not damage or modify them.
- Be careful of static electricity.  
PC boards and electronic parts of internal peripheral devices are exposed. They may be damaged by static electricity generated on your body. Before handling these parts, touch a large metallic object to discharge static electricity.
- Do not touch PC board surface, soldered parts or connectors.  
Hold PC boards by the brackets or edges.
- Power supply for peripheral devices  
Typical peripheral devices should be turned on before turning on the PC, however, some should be turned on after the PC. See the manual for the peripheral device.
- Use ACPI-compatible devices (for Windows 2000).  
Since the PC is controlled as per ACPI (one of the power supply control standards for power saving), peripheral devices must conform to the ACPI standard.
- The use of a peripheral device not conforming to the ACPI standard may cause malfunction of the PC or device. Contact the device manufacturer to ask if your device supports ACPI.  
Use an appropriate screwdriver.
- You must use a Phillips screwdriver to remove slot covers and brackets from the PC.  
Use a screwdriver of an appropriate size not to damage screw heads.

## ■ Location for installation



### 1 Memory slots

Memory modules are inserted into these slots.

Increasing the memory capacity increases the amount of data that the system can read at one access, thereby improving the processing capability of the PC.

### 2 Front access bay

Attach an optional internal SCSI device (such as magneto-optical disk drive), or IDE device (such as a hard disk) as necessary.

Unlike external devices, front access bay options receive power from the PC unit, and therefore require no outlet. They also save space.

### 3 Internal hard disk bay

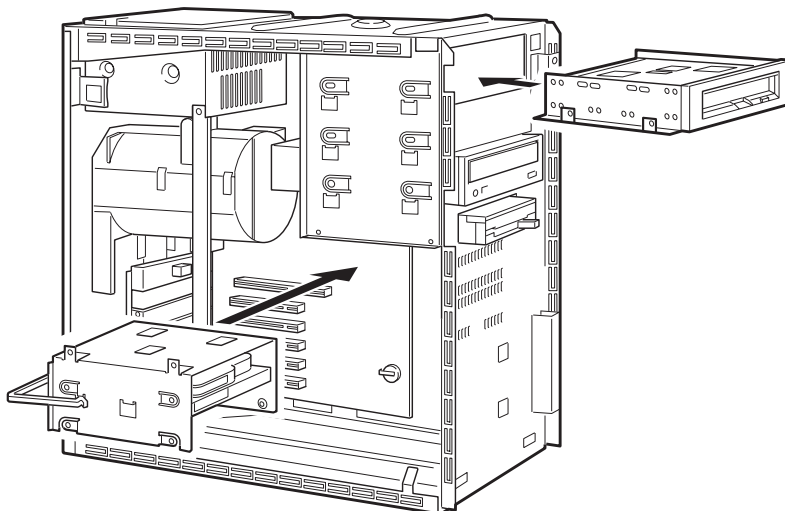
Connect an (IDE-compliant) internal hard disk.

### 4 Expansion card slots

Attach expansion cards. For instance, a SCSI card allows you to install a SCSI-compliant hard disk or magneto-optical disk drive.

## ■ File bay options

This section explains how to install file bay options, such as internal hard disks, magneto-optical disk drives, and floppy disk drives. Unlike external devices, file bay options receive power from the PC unit, and therefore require no outlet. They also save space.



### ⚠ CAUTION

Electric shock



- Before installing or removing a file bay option, turn off the PC and all devices connected to it, and unplug them. Otherwise, an electric shock may occur.

Electric shock



- Use Fujitsu-supplied file bay options. Otherwise, an electric shock, a fire or fault may occur.

### ⚠ WARNING

Injury



- When installing or removing file bay options, do not remove screws other than those specified. Otherwise, personal injury or faults may occur.

Injury



- When assessing the PC board, touch the specified areas only. Otherwise, personal injury or faults may occur.

## ● Notes on installation

- If you want to install file bay options to your PC, set up Windows and then turn off the PC before doing so.
- An internal hard disk can be set to Ultra DMA/100. With the DMA initialization, channel 0 is enabled and channel 1 is disabled for a Windows NT model, while the standard hard disk is set to Ultra DMA mode and the CD-ROM drive is set to PIO mode for a Windows Me/98/2000 model. Refer to the manual for your hard disk to check whether it supports Ultra DMA. When installing a hard disk unit that does not support Ultra DMA, be sure to set DMA to OFF or disable it. If it is used with DMA set to ON or enabled, the unit may not work properly and may destroy data.
- To operate an internal hard disk that supports Ultra DMA/100 under this standard, attach it to the primary IDE. If attached to the secondary IDE, it operates under Ultra DMA/33, not under Ultra DMA/100.
- Only one ATAPI-compliant magneto-optical disk drive can be installed on the PC. When installing a drive, connect it to the secondary IDE.

## ● Master and slave

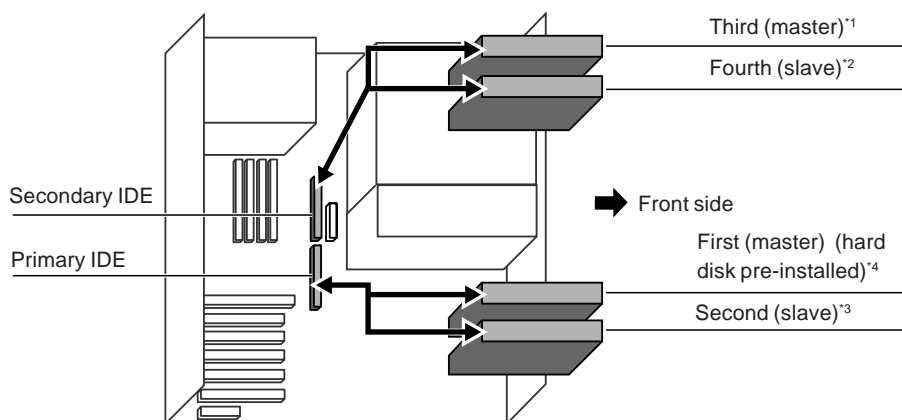
### On standard models

This PC can accommodate up to four IDE-compliant devices. Install the first and second devices to the master and slave of the primary IDE. Install the remaining two (third and fourth) devices to the master and slave of the secondary IDE.

This master and slave setting depends on the connection between the internal IDE devices and flat cables (this configuration is referred to as Cable-Select). Connecting the master connector of a flat cable to an IDE device makes the device configured as a master, while connecting the slave connector to a IDE device makes the device configured as a slave.

To enable Cable-Select, set the jumper switch of the internal IDE device to Cable-Select.

When connecting an internal IDE device that does not support Cable-Select to Master, configure the device as a master. When connecting it to Slave, configure it as a slave.

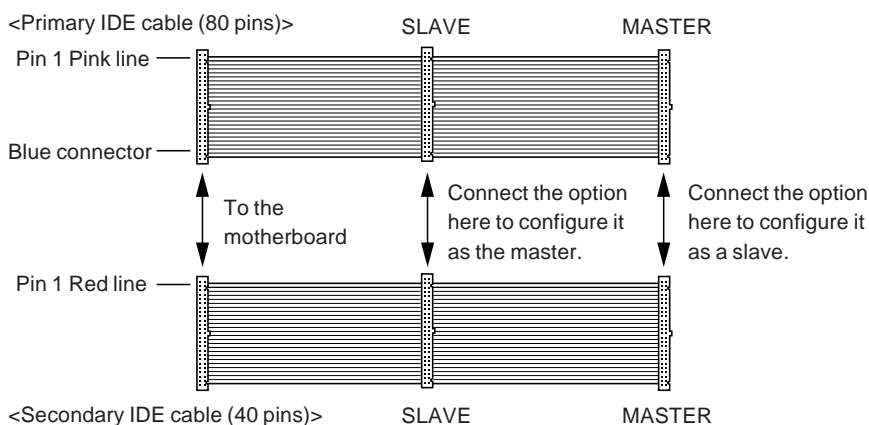


\*1: CD-ROM drive pre-installed. When a magneto-optical disk is selected as a custom-made option, however, a magneto-optical disk drive is installed.

\*2: CD-ROM drive preinstalled when a magneto-optical disk is selected as a custom-made option.

\*3: The internal hard disk bay accepts a hard disk only.

\*4: Installed to the 5" front access bay when the front access unit for HDD is selected as a custom-made option.



## ◎ Point

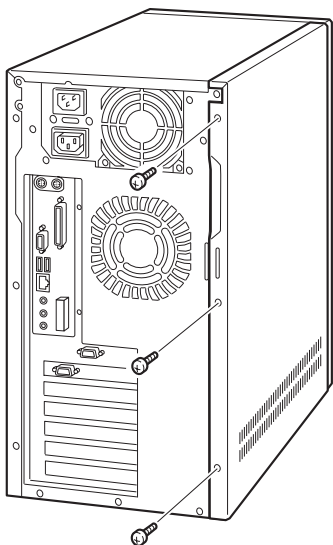
- For this PC, the number of pins in a cable differs between those connected to the primary and secondary IDEs. Use a 80-pin cable for connection to the primary IDE and a 40-pin one for connection to the secondary IDE.
- By default, the pre-installed internal IDE device is configured to Cable-Select.
- Be sure to connect the hard disk that runs OS to the primary IDE connector as a master. If it is connected as a slave or to the secondary IDE connector, OS may not run.
- For combination of the "master" and "slave" of the secondary IDE, refer to "Installing front access bay options".

## 2 Removing the Cover

### ■ Removing the side and upper covers, and front panel

When mounting an internal option, remove the side cover so that the inside can be seen. When mounting a front access bay option, remove the upper cover and front panel as well. Remove the cover and panel as follows:

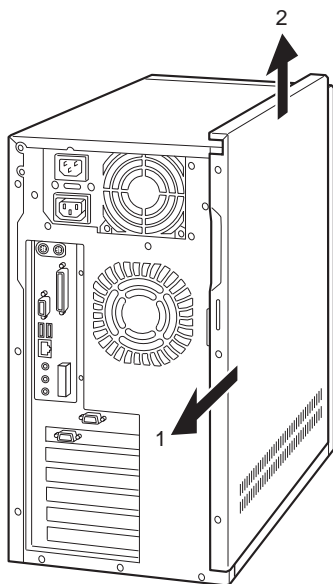
- 1 Turn off the PC and all devices connected to it, and unplug them.
- 2 Remove three right-hand three screws from the back of the PC unit.



### 3 Remove the side cover.

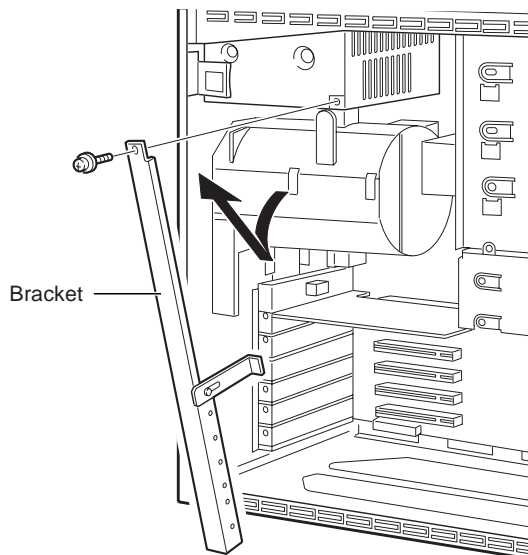
Slide the PC cover toward the back (arrow in the illustration-1).

Raise the cover to remove it (arrow in the illustration-2).

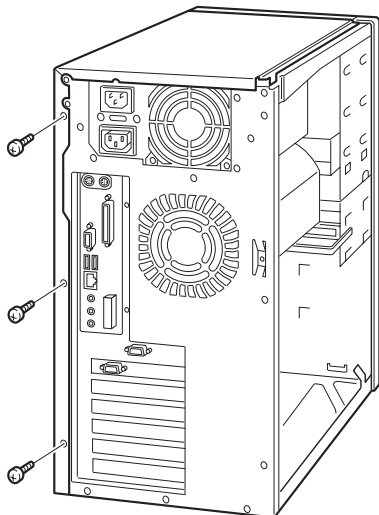


### 4 Remove the bracket.

Remove one screw to remove the bracket.



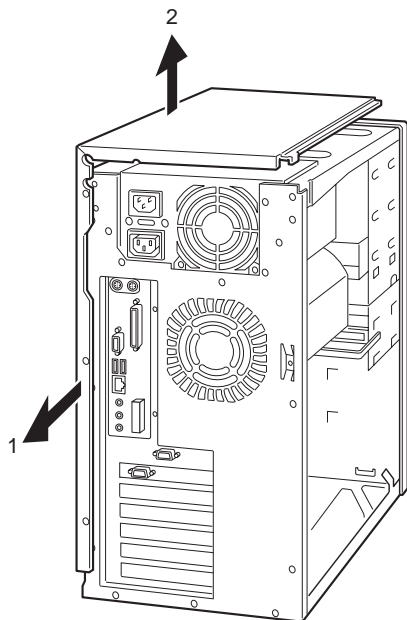
- 5 Remove three left-hand three screws from the back of the PC unit.**



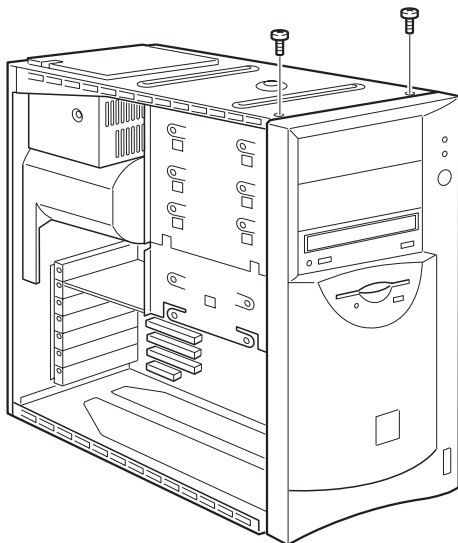
- 6 Remove the upper cover.**

Slide the PC cover toward the back (arrow in the illustration-1).

Raise the cover to remove it (arrow in the illustration-2).

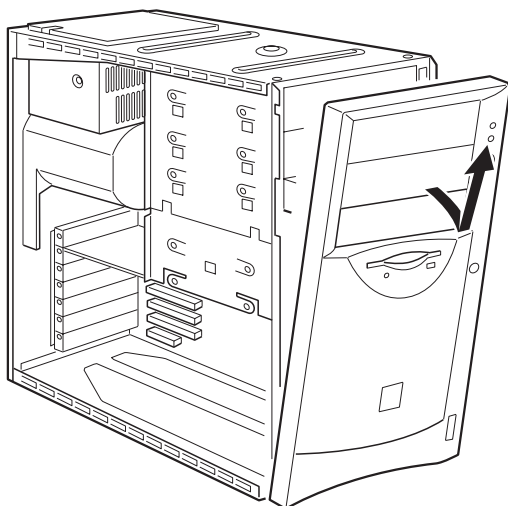


**7 Remove two screws from the upper area of the front panel.**



**8 Remove the front panel.**

Tilt the front panel toward you before pulling it up.



**◎ Point**

- Remove the upper cover and front panel as necessary.
- Reinstall them in the reverse order.

# 3 Increasing the Memory Capacity

This section explains how to remove or install memory modules. Increasing the memory capacity increases the amount of data that the system can read at one access, thereby improving the processing capability of the PC.

## ◎ Point

- If you want to install a memory module soon after you purchase the PC, set up Windows, turn off the PC, and then install the memory module.
- The memory module preinstalled in your PC becomes hot when the system is running fast. To replace or add a memory module, turn off the power switch and unplug the power cord from the outlet to allow your PC to cool down before doing so.

## ⚠ CAUTION

Electric shock



- Before installing or removing a memory module, turn off the PC and all devices connected to it, and unplug them. Otherwise, an electric shock may occur.

Electric shock



- Use Fujitsu-supplied memory modules. Otherwise, an electric shock, a fire or fault may occur.

## ⚠ WARNING

Injury



- When installing or removing a memory module, do not remove screws other than those specified. Otherwise, personal injury or faults may occur.

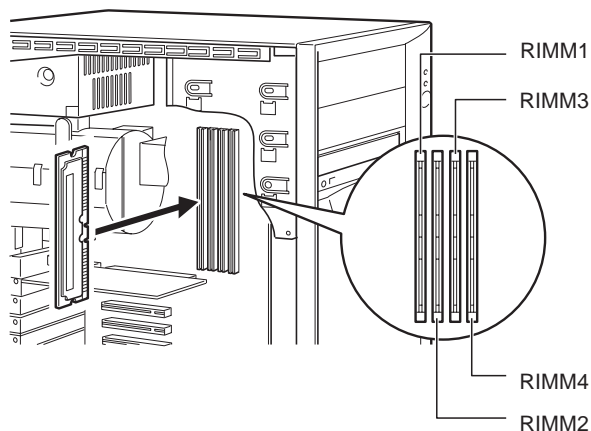
Injury



- When assessing the PC board, touch the specified areas only. Otherwise, personal injury or faults may occur.

## ■ Location of memory modules

Memory modules are inserted into memory slots inside the PC unit.



## ■ Applicable memory modules

To expand the memory, always use Fujitsu-supplied ECC RDRAM RIMM memory modules.

### ● Memory module combinations

Up to 1,024 megabytes of memory can be installed on the PC.

In the standard configuration, slots RIMM1 and RIMM3 (Bank 1) have RAM modules and slots RIMM2 and RIMM4 (Bank 2) hold continuity modules (C-RIMMs).

Expansion memory modules must be installed in the slots in one of the combinations shown in the table below. With a combination not listed in the table, the PC may not operate properly.

BANK1		BANK2		
RIMM1	RIMM2	RIMM3	RIMM4	Total memory capacity
64 MB	C-RIMM	64 MB	C-RIMM	128 MB (Standard)
64 MB	64 MB	64 MB	64 MB	256 MB
64 MB	128 MB	64 MB	128 MB	384 MB
64 MB	256 MB	64 MB	256 MB	640 MB
128 MB	C-RIMM	128 MB	C-RIMM	256 MB
128 MB	128 MB	128 MB	128 MB	512 MB
128 MB	256 MB	128 MB	256 MB	768 MB
256 MB	C-RIMM	256 MB	C-RIMM	512 MB
256 MB	256 MB	256 MB	256 MB	1024 MB

## ❏ Important

---

- When you do not install an additional memory module in BANK2, insert the continuity module into it. When BANK2 has no module installed, the PC does not operate properly.
  - The continuity module is not used on computers equipped with an additional memory module in BANK2 as a custom-made option. Therefore, memory combinations using the C-RIMM shown in the table cannot be chosen on such computers.
  - Be sure to install memory modules of the same size to a combination of RIMM2 and RIMM3 and a combination of RIMM2 and RIMM4.
- 

## ■ Installing/removing memory modules

Here, procedures for installing and removing memory modules are explained with an example of replacement of the continuity module in RIMM1 with a memory module.

## ◎ Point

---

- In installing or removing a continuity or memory module, hold the PC unit to prevent it from falling. Work will be easier on a PC in a horizontal position.
  - A front access bay with a device installed may prevent you from installing and removing memory modules with ease. In that event, remove the PC cover after carrying out Step 3 in "Installing memory modules" and then remove the screws from the front access bay to slide the device toward the front of your PC.
  - When returning the device back into the front access bay, use care not to allow it to touch the memory modules.
-

## ● Installing memory modules

1 **Disconnect the power plug from the outlet.**

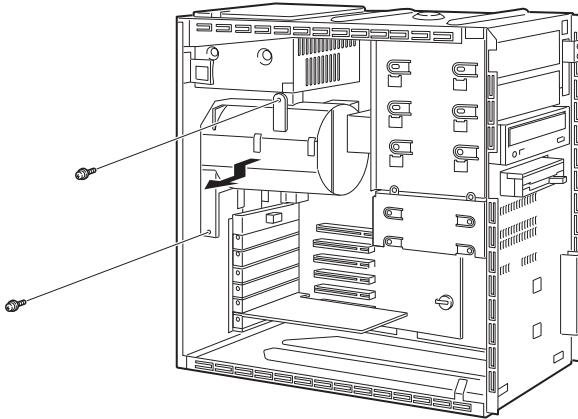
2 **Remove the side cover.**

Confirm that the memory power LED is off. If the memory power LED is on, disconnect the power cable from your PC before preceeding.

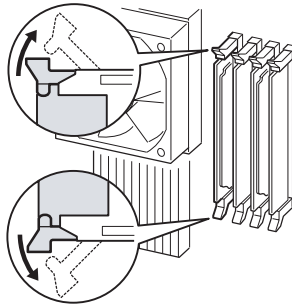
3 **Remove the bracke.**

4 **Remove the duct.**

Remove the two screws.



5 **Open the hook on both sides of the slot outward to remove the memory module.**



## ◎ Point

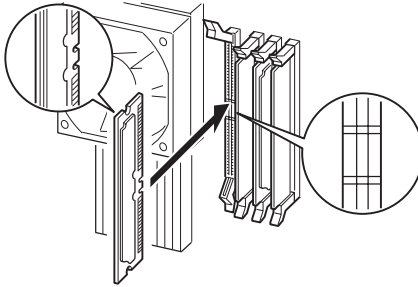
- Do not open the hooks too violently. Otherwise, the memory module may jump out of the slot and become faulty.
- Keep the removed continuity module in a safe place.

## 6 Insert a memory module into the slot.

Insert the memory module upright into the slot so that the notches in both memory module and slot line up.

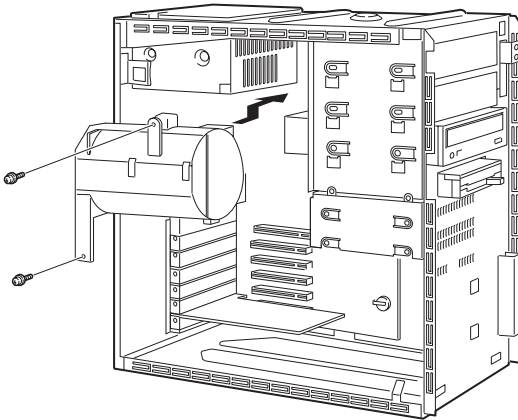
When the memory module is inserted correctly, it is locked by the hooks on both sides of the slot.

Make sure that the memory module is hooked securely.



## 7 Reinstall the duct

Secure the duct with the two screws removed in Step 4.



## 8 Reinstall the bracket.

## 9 Reinstall the side cover.

## ● Removing memory modules

Refer to "Installing memory modules".

## 4 Installing Expansion Cards

This section explains how to install expansion cards. Expansion cards are used to enhance the PC functions.

### ◎ Point

---

- If you want to install an expansion card soon after you purchase the PC, set up Windows, turn off the PC, and then install the card.

### ⚠ CAUTION

---

Electric shock



- Before installing or removing an expansion card, turn off the PC and all devices connected to it, and unplug them. Otherwise, an electric shock may occur.

Electric shock



- Use Fujitsu-supplied expansion cards. Otherwise, an electric shock, a fire or fault may occur.

### ⚠ WARNING

---

Injury



- When installing or removing an expansion card, do not remove screws other than those specified. Otherwise, personal injury or faults may occur.

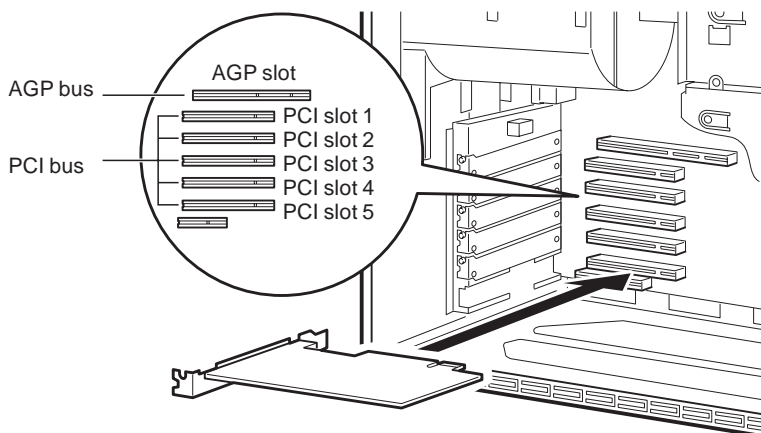
Injury



- When assessing the PC board, touch the specified areas only. Otherwise, personal injury or faults may occur.
- Do not touch the metal fittings on the back of the motherboard. Otherwise, personal injury or faults may occur.

## ■ Applicable expansion cards

The PC is provided with slots for AGP and PCI cards. The standard display card is preinstalled in the AGP slot. Install a PCI card in one of the PCI slots 1 to 5.

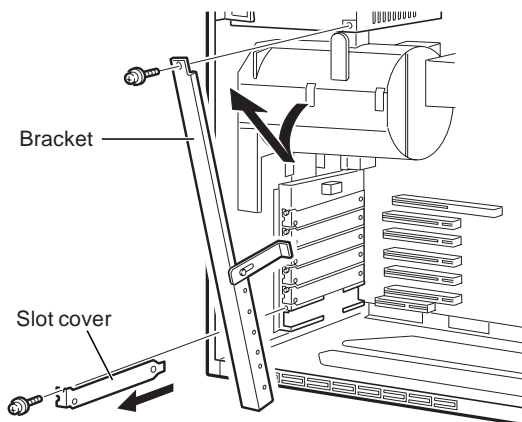


## ■ Installing an expansion card

- 1 Disconnect the power plug from the outlet.
- 2 Remove the side cover.
- 3 Removing the slot cover and bracket.

Remove one screw to remove the slot cover and bracket.

Tilt the bracket before removing it.

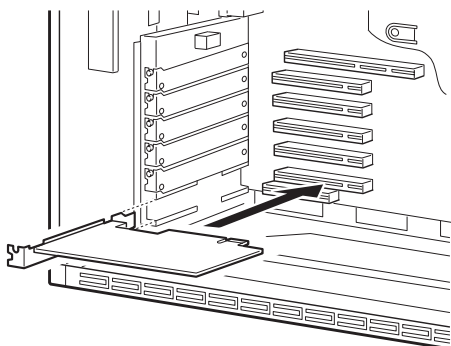


### ◎ Point

- Keep the removed slot cover.

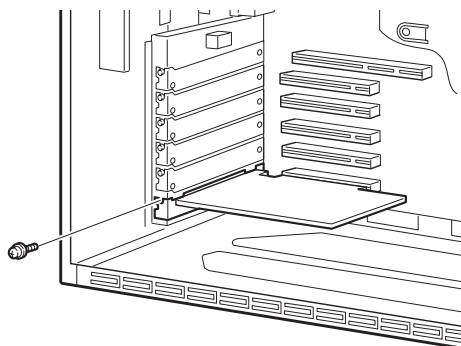
**4 Insert the expansion card into the connector.**

Completely insert the expansion card into the connector.



**5 Fix it with the screw.**

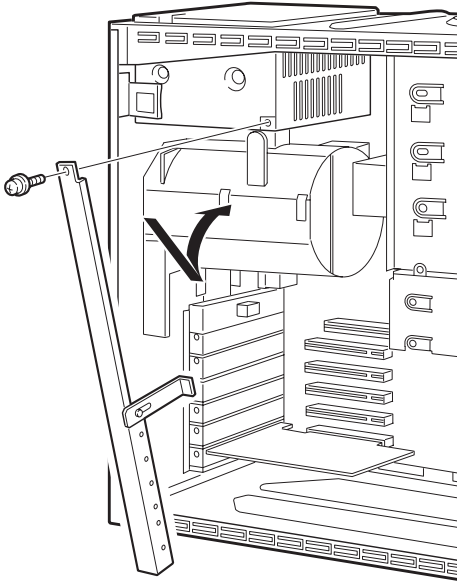
Fix the expansion card with the one screw removed in Step 3.



## 6 Reinstall the bracket.

Tilt the bracket to seat it in place from the bottom.

Secure the bracket with the one screw removed in Step 3.



## 7 Reinstall the side cover.

### ⦿ Point

- To remove an expansion card, reverse the above procedure.

## 5 Installing an Internal Hard Disk

This section explains how to replace the standard internal hard disk with one having more capacity or install a second internal hard disk.

### ■ Notes on handling the hard disk

To prevent faults, note the following when handling the hard disk.

- Data is read from the hard disk or written to it while the internal disk that stores data is rotating at high speeds. Since it is a very delicate device, do not carry the PC with the power on or do not apply shock or vibration to the PC.
- Do not use or store the hard disk in an area where temperature changes sharply in an extremely wide range.
- Do not place the hard disk in an area exposed to direct sunlight or near a heater.
- Do not use or store the hard disk in an area subjected to shock or vibration.
- Do not use or store the hard disk in a humid or dusty area.
- Do not use or store the hard disk near a magnet or device that generates a strong magnetic field.
- Do not disassemble or break down the hard disk.
- Keep the hard disk free from condensation or moisture.

### ◎ Point

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- Improper handling may damage the data stored on the disk. Always make backup copies of important data.
  - Even hard disks of the same type have different capacities. It is recommended the you back up data not in units of hard disks but in units of files or partitions.
- 

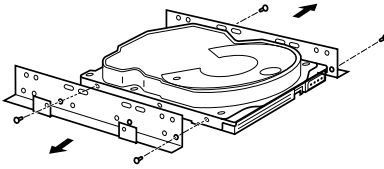
### ■ Installing a disk in the internal hard disk bay

#### 1 Set the jumper switch.

When installing the first disk, refer to the manual for the internal hard disk and make sure that the jumper switch is set to Master or Cable-Select. When installing the second one, set the switch to Slave or Cable-Select.

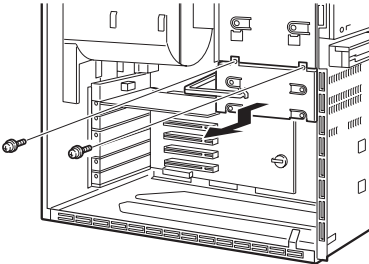
- 2 If brackets are attached to both sides of the internal hard disk to be replaced (installed), remove the brackets.**

Remove the four screws to remove the brackets.



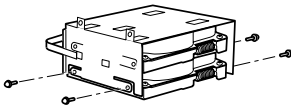
- 3 Disconnect the power plug from the outlet.**  
**4 Remove the side cover.**  
**5 Remove the mounting bracket from the PC unit.**

Remove the two screws to remove the brackets.



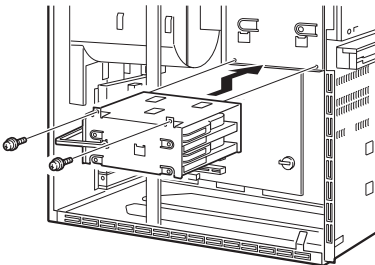
- 6 Replace (or install) the internal hard disk.**

Remove the four screws from the sides of the removed mounting brackets and install the internal hard disk to be replaced (or installed) onto the brackets.



- 7 Attach the brackets to the PC unit.**

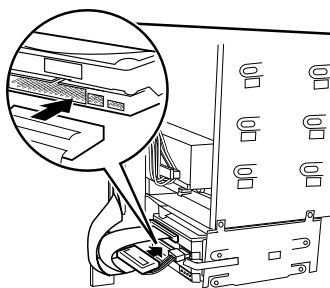
Secure the bracket with the two screws removed in Step 5.



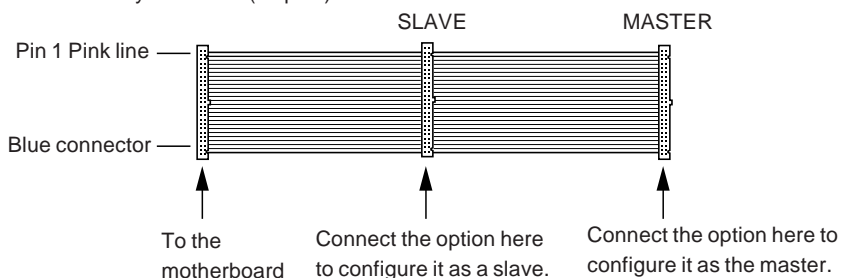
## 8 Connect flat cables.

The connector of the primary IDE cable, which is marked "To the motherboard" in the figure below, is connected to the primary IDE connector in the PC unit.

On standard models, to install the first disk, connect the master connector of the primary IDE cable to the connector of the internal hard disk. When installing the second one, connect the slave connector of the primary IDE cable connected to the first hard disk to the connector of the internal hard disk.

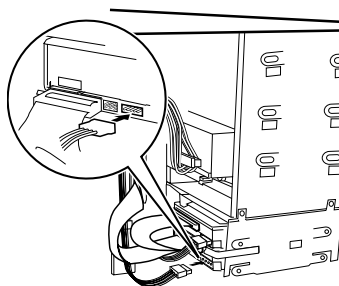


< Primary IDE cable (80 pins)>



## 9 Connect the power cable.

Connect an unused power cable in the PC unit to the installed internal hard disk.



## 10 Install the side cover.

## 11 Set the installed hard disks using BIOS Setup.

Set the type of the installed internal hard disk using [Main]-[IDE Drive 1] of BIOS Setup for that installed first or [IDE Drive 2] for the second (set to [Auto] by default).

### ◎ Point

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- To remove hard disks, reverse the procedure for installing them.
  - After installing the first internal hard disk, use the attached Recovery CD-ROM boot disk to configure partitions and install OS for each partition.
  - After installing the second internal hard disk, configure as follows:
    - For Windows NT model  
On Disk Administrator, configure partitions and format the hard disk. Disk Administrator is activated by clicking the [Start] button, [Program], then [Administration tools (common)].
    - For Windows 2000 model  
On Disk Administrator, configure partitions and format the hard disk. Administrate the Disk is under the Storage Area displayed by clicking the [Start] button, [Program], then [Administrate the Computer].
- 

## ■ Installing a disk in the front access bay

In installing the hard disk drive in the front access bay, see "Installing Other Devices".

### ◎ Point

---

- To remove hard disks, reverse the procedure for installing them.
  - After installing the first internal hard disk, use the attached Recovery CD-ROM boot disk to configure partitions and install OS for each partition.
  - After installing the second internal hard disk, configure as follows:
    - For Windows NT model  
On "Disk Administrator", configure partitions and format the hard disk. "Disk Administrator" is activated by clicking the [Start] button, [Program], then [Administrative tools (common)].
    - For Windows 2000 model  
Using "Disk Management", configure partitions and format the hard disk. "Disk Management" is under Storage branch displayed by clicking the [Start] button, [Program], then [Computer Management].
-

## 6 Installing Other Devices

### ■ Installing front access bay options

Install a front access bay option such as internal hard disk and CD-ROM drive as follows:

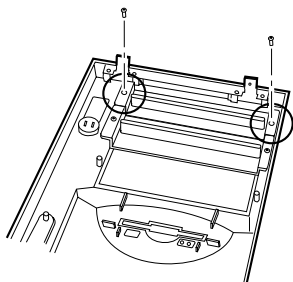
#### ◎ Point

- A SCSI card must be installed before installing an internal SCSI option.
- A SCSI ID must be set for an internal SCSI option to be installed. Refer to the related manual and set a unique SCSI ID.
- Before installing an internal IDE option, set it to Master, Slave or Cable-Select.

- 1 **Disconnect the power plug from the outlet.**
- 2 **Remove the side and upper covers and front panel.**
- 3 **Remove the blank panel from the front panel.**

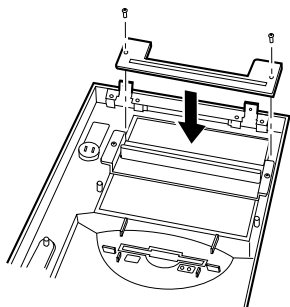
Remove two screws from both edges of the blank panel.

The blank panel need not be removed when installing an internal hard disk.



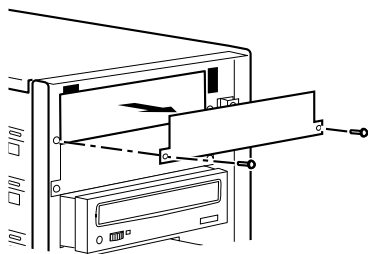
## ◎ Point

- When installing a magneto-optical disk drive, fix the attached front access bay panel to the front panel using the screws.



### 4 Remove the blank panel from the PC unit.

Remove two screws to remove the panel.

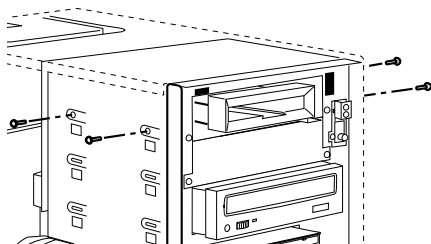


### 5 Install a front access bay option on the PC unit.

A front access bay option other than the internal hard disk is to be installed so that the front of the option is aligned with the front panel surface.

Secure the option with the four screws.

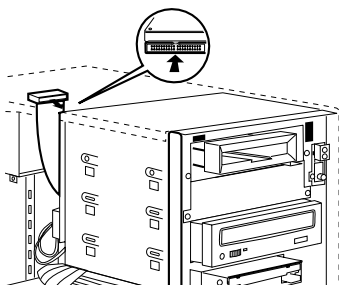
To install an internal hard disk, reinstall the blank plate.



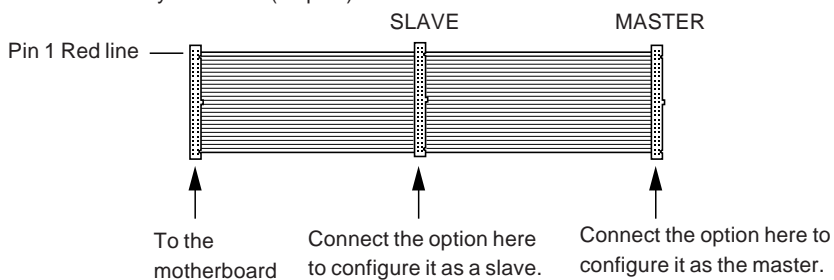
## 6 Connect flat cables.

- When connecting an IDE-compliant internal option

The connector of the secondary IDE cable, which is marked "To the motherboard" in the figure below, is connected to the secondary IDE connector in the PC unit.



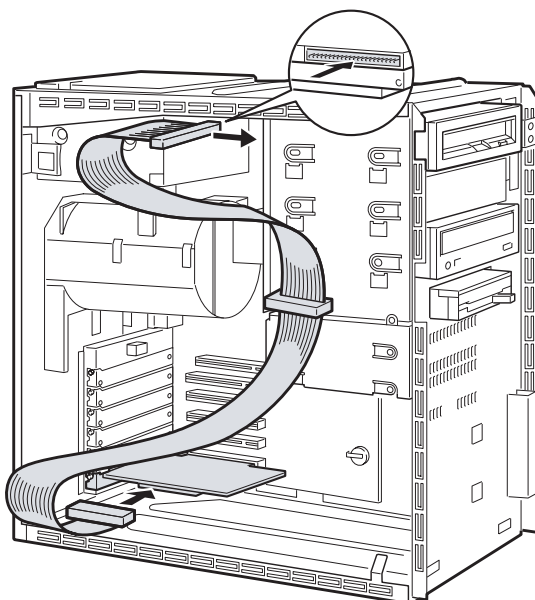
< Secondary IDE cable (40 pins)>



Connect components as follows to the master and slave connectors:

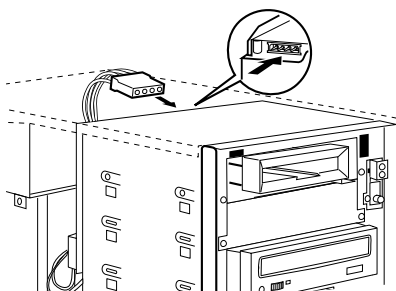
	Master	Slave
CD-ROM only	CD-ROM	—
Hard disk + CD-ROM	Hard disk	CD-ROM
Magneto-optical disk + CD-ROM	Magneto-optical disk	CD-ROM

- When connecting a SCSI-compliant internal option  
Connect the connector on the one side of a SCSI card flat cable to the connector of an internal SCSI option. Connect the connector on the other side to the connector of the SCSI card installed on the expansion slot.



## 7 Connect the power cable.

Connect an unused power cable to the connector on the installed internal option.



## ◎ Point

- When installing an internal magneto-optical disk drive, connect a power cable that has only one power connector. If that power cable is not available, use other power cable that should be used to connect an internal magneto-optical disk drive only.

## 8 Reinstall the front panel and upper and side covers.

## 9 Set the installed hard disks using BIOS Setup.

After installing IDE-compliant internal options, set the types using [Main]-[IDE Drive 3] and [IDE Drive 4] of BIOS Setup (set to [Auto] by default).

### ◎ Point

---

- To remove options, reverse the installation procedure.
  - After installing a hard disk or magneto-optical disk drive, take the following steps to configure the disk.
    - For Windows NT model
      - After installing a hard disk, configure partitions and format the disk by using "Disk Administrator". "Disk Administrator" is activated by clicking the [Start] button, [Program], then [Administrative Tools].
      - After installing a magneto-optical disk, configure partitions and format the disk by using "MO Formatter". "MO Formatter" is activated by clicking the [Start] button, [Program], then [MOWare].
    - For Windows 2000 model
      - When you have installed a hard disk, configure partitions and format the disk by using "Disk Management". "Disk Management" is under Storage branch displayed by clicking the [Start] button, [Program], then [Computer Management].
      - After installing a magneto-optical disk, format the disk using "MO Disk Formatter".
      - "MO Disk Formatter" is activated by clicking the [Start] button, [Program], then [MO Utilities].
  - Keep the removed brackets in a safe place.
-





# 3

## Chapter 3 Troubleshooting

This chapter explains how to respond to a problem occurring in the PC. read wherever applicable.

# 1 Problems

This section identifies problems relating to each function. Read whatever applicable.

## ● The access lamp stays off.

The PC may be faulty. Contact your nearest Fujitsu Service Center or the shop where you purchased the PC.

## ● Nothing appears on the display.

Check the following:

- Is the display power switch turned on?
- Is the energy-saving mode set? Move the mouse or press any key.
- Is the display cable connected correctly?
- Is the display cable connected to the outlet?

## CAUTION

Electric shock



- Be sure to turn the power off before reconnecting the cable. Otherwise, an electric shock may occur.

- Are the brightness and contrast controls of the display adjusted correctly? Adjust the screen using these controls.
- Are add-on units (e.g. memories) installed correctly?

## ● The screen sways.

Is there any substance generating a strong electromagnetic field (ex. TV) near the display? If any, keep it away from the display.

## ● The left and right sides of the screen are concealed.

Adjust the horizontal screen size using the adjustment button of the display.

## ● Data cannot be written to or read from a floppy disk.

Check the following:

- Is the floppy disk drive head dirty? If so, use an appropriate cleaning floppy disk to clean the head.
- Is the floppy disk write-protected? If so, set the write-protect notch of the floppy disk to the write-enable position.

## ● The PC cannot be turned on or the power lamp does not light up.

Is the power cable properly connected to the outlet?

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

Check the following:

- Is the CD placed correctly in the center of the tray? If not, reset it with its label side facing upward.
- Is the CD placed upside down? If so, reset it with its label side facing upward.
- Is the CD dirty or wet? If so, wipe it with a dry, soft cloth from the center to the outer edge.
- Is the CD damaged or extremely deformed? If so, replace it.
- Does the CD conform to the specifications? If not, use a conforming CD.

● **The characters entered using the keyboard are not displayed.**

Is the keyboard connected correctly?

● **The mouse cursor does not move.**

Is the mouse connected correctly?

● **The SCSI device connected via a SCSI card is not recognized by Windows 2000.**

Check the following:

- Is a SCSI card driver installed? Confirm it as follows:
  - 1 Double-click the [System] icon on the [Control Panel] window.
  - 2 Click the [Hardware] tab.
  - 3 Click the [Device Manager] to check that a SCSI controller has been registered.  
If not, click the [Hardware Wizard] in the [Hardware] tab in Step 2 to detect the SCSI card and install a driver.
- Did you turn the SCSI device on before turning the PC unit on? If not, the device is not recognized properly.

● **Network connection cannot be established.**

Check the following:

- Is the network cable connected correctly?
- For 100Mbps communication, is a category 5 UTP cable used?
- Does the ACT/LNK lamp of the hub unit light up?
- Make sure the network connection is established using LAN Diagnostic function (or Ping command when the TCP/IP protocol is used).

◎ **Point**

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- For Windows NT, an [Intel PROSet II] icon is registered in the [Control Panel] window after the LAN driver is installed. This diagnostic function, however, is not available.
-





# 4

## **Chapter 4 Technical Information**

This chapter explains the specifications and other information relating to this PC.

# 1 Maintenance of the Hardware

## Maintenance of the PC unit

### CAUTION

---

Electric shock



- Before starting maintenance, turn the PC unit and the connected devices off and disconnect the power plugs. Otherwise, an electric shock may occur.

- Clean your PC using a soft, dry cloth. If dirt still remains, use a cloth slightly wet with neutral detergent. After dirt is wiped off, remove the neutral detergent with a cloth slightly wet with water. Be careful not to allow water enter the PC unit during wiping.
- Never use detergents or solvents other than neutral detergent. They may damage the PC unit.
- Regularly clean the ventholes using a vacuum cleaner or other equipment to prevent dust accumulation.

### ■ Maintenance of the keyboard

Clean the keyboard using a soft, dry cloth.

### ■ Maintenance of CDs

Wipe CDs using a soft cloth from the center to the outer edge. If dirt still remains, use a soft cloth slightly wet with soapy water to clean the dirt and then use a dry, soft cloth to remove the remains.

## ■ Maintenance of the mouse

Clean the surface using a soft, dry cloth. If the mouse ball does not roll smoothly, remove and clean the ball as follows:

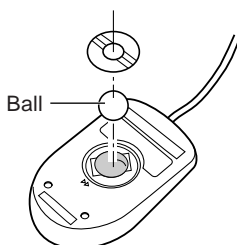
### 1 Remove the mouse bottom cover.

Turn the cover on the bottom of the mouse in the direction of the arrow to remove.



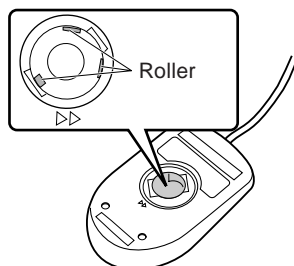
### 2 Remove the ball and clean with water.

Turn the mouse over to remove the ball. Clean the ball with water.



### 3 Clean inside the mouse.

Clean the inside, roller and bottom cover of the mouse with a cloth slightly wet with water.



### 4 Replace the ball and bottom cover.

Replace the ball and bottom cover after completely drying the ball and inside of the mouse.

## ■ Cleaning of the floppy disk drive

The floppy disk drive head (the component to read and write data) becomes dirty after used for extended periods. A dirty head prevents proper reading from or writing to a floppy disk. Use a separately-sold, cleaning to clean the drive head once every three months.

Insert a cleaning floppy into the floppy disk drive.

Enter a disk access command such as dir at the command prompt.

Example: Enter the following and press the [Enter] key:

dir a:

## 2 Preventing Television or Radio Interference

This PC conforms to the VCCI standard for preventing television or radio interference. It may cause interference on a radio or television, however, if such equipment is located near the PC. Even if such interference occurs, the PC should not be considered faulty.

Note the following precautions to prevent television or radio interference:

### ● Precautions on PC

- Do not use the PC with the cover open.
- Use a specified cable to connect peripheral devices.
- When connecting a cable, make sure that the connector is firmly fixed. Be also sure to completely tighten the screws.
- Connect the power plug of this PC to a different outlet from that accepting the power plug of a television or radio.

### ● Precautions on television/radio

- Keep a television or radio away from this PC.
- Adjust the direction or position of a television/radio antenna to eliminate interference.
- Keep the antenna wiring of a television/radio away from this PC.
- Use a coaxial cable for an antenna.

Whether the PC or peripheral device affects television or radio reception can be determined by turning the entire PC, including the peripheral devices, off.

If interference occurs on a television or radio, review the items listed above.

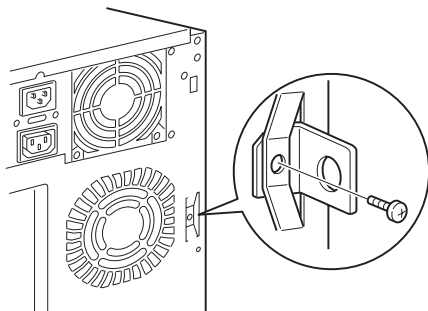
If interference still occurs, contact your nearest Fujitsu Service Center or the shop where you purchased the PC.

### 3 Security of the Case

To protect the equipment inside the PC (ex. hard disk and CPU) from burglaries, the cover of the PC can be locked.

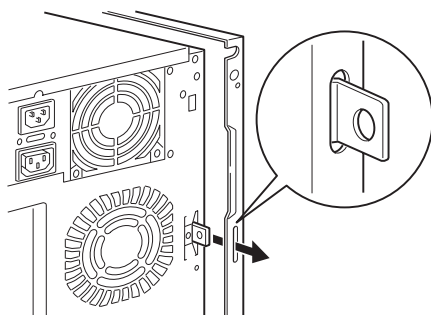
**1 Remove the side cover.**

**2 Install the security key mounting bracket. (Optional)**

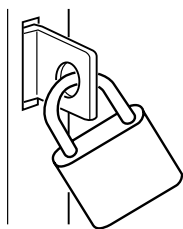


**3 Reinstall the side cover.**

Put the security key mounting bracket through the slit on the back of the cover.



**4 Engage a lock you prepared with the mounting bracket.**



# 4 Hardware Specifications

## ■ Specifications of PC unit

<b>Product name</b>		<b>DESKPOWER 8000</b>
CPU		Pentium® 4 Processor-1.3/1.5 GHz
Cache memory		Primary: 8KB (data), secondary: 256KB
BIOS ROM		512KB (Flash ROM)
Main memory		128MB ECC RDRAM (standard) (extendable up to 1024MB)
Floppy disk		3.5-inch
Hard disk <sup>*1</sup>		Standard 40 GB
CD-ROM		Optional
Graphics		ATI Rage 128 Ultra GL AGP
Sound		Integrated + AC97 Codec
Network		100BASE-TX/10BASE-T, Alert On LAN/ Wake up on LAN supported
I/F	Display	Analog RGB, Mini D-SUB 15-pin
	USB	USB connector x 3
	Keyboard	PS/2 type Mini DIN 6-pin
	Mouse	PS/2 type Mini DIN 6-pin
	Serial port	Asynchronous RS-232C x 2 D-SUB 9-pin
	Parallel port	Centronics-compliant ECP supported D-SUB 25-pin
	Sound	Line Out, Line In, Mic In
	LAN	Modular connector RJ45
Hardware monitor		Voltages +12V: 0 to +14.16V [accuracy: ±3%] +5V: 0 to +6.57 V [accuracy: ±3%] Temperatures Motherboard: -128 to +127C [accuracy: 3C] CPU: -128 to +127C [accuracy: ±3C]
Number of expansion slots		6 AGP x 1 (display card pre-installed) PCI x 5

<b>Product name</b>	<b>DESKPOWER 8000</b>
Number of storage bays	Front: Front access bay x 3
Power supply and frequency	110/230 VAC, 50/60Hz
Power consumption	Power consumption Normal operation: Approx. 44 watts 250 watts max.
Weight	Approx. 13.5 kg
Outside dimensions	210mm x 440mm x 420mm (W x D x H)
Operating environment	Temperature: 10 to 35C, Relative humidity: 20 to 80%

\*1: Since the disk capacity specified in this manual is based on the conversions of 1MB = 1,000 2 bytes and 1GB = 1,000 3 bytes, the actual capacity displayed on Windows using the conversions of 1MB = 1,024 2 bytes and 1GB = 1,024 3 bytes is smaller than that specified in this manual.

## ◎ Point

- Note that the specifications of this PC may be revised without notice.

## ■ LAN adapter specifications

<b>LAN controller</b>	<b>Intel 82550</b>
RAM for send/receive buffer	3 KB each for sending and receiving
External interface	ISO8802-3 100BASE-TX/10BASE-T
Transfer media	Twisted pair cable <sup>*1</sup> (100 Mbps: Category 5, 10 Mbps: Categories 3 to 5)
Transfer method	Base band
Access method	CSMA/CD
Security feature	MD-5, SHA-1, DES, and 3DES are hardware-supported
Data transfer speeds	100 Mbps, 10 Mbps
Wiring shape	Star shape
Maximum segment length	100 m
Maximum number of nodes per segment	Depends on the hub unit <sup>*2</sup>

<sup>\*1</sup>: To appropriately run the network at 100 Mbps, use a category 5 or higher unshielded twisted pair (UTP) cable. Data may be lost if a category 3 or 4 cable is used.

<sup>\*2</sup>: The "hub unit" refers to a 100BASE-TX/BASE-T concentrator.

## ◎ Point

- The standard LAN of this PC automatically adapts to the speed of the connected network. After the network speed is changed due to the replacement of hub units or other reasons, be sure to use a cable of an appropriate data grade for the speed.

## ■ Sound specifications

<b>Sound controller</b>	<b>Intel 82801BA Chipset (built-in) + Analog Device AD1885</b>
PCM record/playback feature	48kHz sampling rate, max.
Analog input terminals	Line In (Stereo), Mic In (Mono)
Analog output terminals	Recommended load impedance for Line Out (Stereo): 10 kilohms, min.

<sup>\*1</sup>: Supports DirectX7.0a or later.

## ■ Graphical specifications

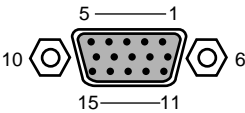
<b>Video controller</b>	<b>ATI Technologies RAGE TM 128UltraGL 4X</b>
Display mode	1600 x 1200 dots, 16.77 million colors max.
Video output signal	Video: Analog RGB, synchronous signal: TTL-compatible
Video memory	16 MB SGRAM

<sup>\*1</sup>: Supports DirectX7.0a or later.

# Connector specifications

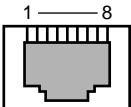
The pin assignments and signal names of each connector are as follows:

## CRT connector



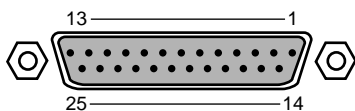
Pin No.	Signal name	I/O	Description
1	RED	Output	Red output
2	GREEN	Output	Green output
3	BLUE	Output	Blue output
4	ID2	I/O	Not connected
5 to 8	GND	—	Ground
9	VCC	—	Power
10	GND	—	Ground
11	ID0	I/O	Not connected
12	ID1 (SDA)	I/O	DDC data
13	HSYNC	Output	Output Horizontal synchronizing signal
14	VSYNC	Output	Output Vertical synchronizing signal
15	SCL	I/O	DDC clock

## LAN connector (100BASE-TX/10BASE-T)



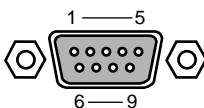
Pin No.	Signal name	I/O	Description
1	TD+	Output	Transmit data+
2	TD-	Output	Transmit data-3
3	RD+	Input	Receive data+
4	NC	—	Not connected
5	NC	—	Not connected
6	RD-	—	Receive data-7
7	NC	—	Not connected
8	NC	—	Not connected

## ● Parallel connector



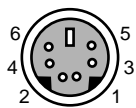
Pin No.	Signal name	I/O	Description
1	STORE	I/O	Strobe
2	DATA 0	I/O	Data 0
3	DATA 1	I/O	Data 1
4	DATA 2	I/O	Data 2
5	DATA 3	I/O	Data 3
6	DATA 4	I/O	Data 4
7	DATA 5	I/O	Data 5
8	DATA 6	I/O	Data 6
9	DATA 7	I/O	Data 7
10	ACK	Input	Acknowledgment
11	BUSY	Input	Busy
12	PE	Input	No paper
13	SELECT	Input	Input Select
14	AUTOFD	Output	Automatic feed
15	ERROR	Input	Error
16	INIT	Output	Initialize
17	SLCTIN	Output	Select
18 to 25	GND	—	Ground

## ● Serial connector



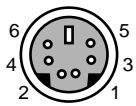
Pin No.	Signal name	I/O	Description
1	CD	Input	Carrier detect
2	RD	Input	Receive data
3	TD	Output	Transmit data
4	DTR	Output	Data terminal ready
5	GND	—	Ground
6	DSR	Input	Data set ready
7	RTS	Output	Request to send
8	CTS	Input	Clear to send
9	RI	Input	Ring indicate

● **Mouse connector**



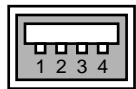
Pin No.	Signal name	I/O	Description
1	DATA	I/O	Data
2	NC	—	Not connected
3	GND	—	Ground
4	VCC	—	Power
5	CLK	I/O	Clock
6	NC	—	Not connected

● **Keyboard connector**



Pin No.	Signal name	I/O	Description
1	DATA	I/O	Data
2	NC	—	Not connected
3	GND	—	Ground
4	VCC	—	Power
5	CLK	I/O	Clock
6	NC	—	Not connected

● **USB connector**



Pin No.	Signal name	I/O	Description
1	VCC	—	Cable/power
2	-DATA	I/O	-data s ignal
3	+DATA	I/O	+data signal
4	GND	—	Cable/ground

## 5 Other Precautions

### ■ Disposal

#### ● Disposal of LCD

The fluorescent tube in the LCD contains mercury. When disposing of the PC, follow your local environmental rules and regulations.

#### ● Disposal of battery

Since batteries are used in the PC unit, an explosion may occur if it is thrown into a fire. When disposing of an old battery, follow your local environmental rules and regulations.

### ■ Power-saving function (Windows 2000 models)

Since Windows 2000 models support advanced power-saving mode (ACPI S3 mode), if you use an internal option of peripheral (e.g. a printer or USB device) that does not support the advanced power-saving mode, your PC may malfunction after returning from the standby mode.

In such cases, switch the standby mode from Advanced (ACPI S3) to Standard (ACPI S1).

### ■ USB (Windows 2000 models)

“USB” stands for “Universal Serial Bus”, which standardizes mouse, keyboard, printer, modem, and speaker interfaces.

#### ◎ Point

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- Some USB-compliant peripheral devices require a special device driver to be installed.
  - USB is supported by Windows 2000.
  - Depending on the type of a connected USB device, Windows may not be closed properly. In this case, remove the device and close Windows.
- 

### ■ When using USB devices

- To use USB devices in Safe mode, from BIOS Setup Utilities Main Menu, select [Advanced]–[Advanced System Configuration], then [USB Legacy Support] to set this option to [Enabled].
- To use a USB keyboard on Windows 2000 models, set your PC as follows when connecting a scroll point mouse to your PC. Note that this setting disables the scrolling feature of the mouse.
  - 1 Select [System] on the [Control Panel] window.
  - 2 Click [Hardware] tab, then click [Device Manager].
  - 3 Point to [PS/2 Mouse Properties] under [Mouse and other pointing devices] to open its window.
  - 4 Double-click [Advanced Settings], set [Detect Wheel] to [Search for wheel], then click [OK].

## ■ USB hub (Windows 2000 models)

Depending on the type of USB hub you are using, your PC may return to full-power operation immediately after shifting to standby mode (ACPI S3). To prevent this, from [System Properties] select [Device Manager], then open the properties for the device connected to the USB hub. Uncheck [Allow this device to cause the computer to exit standby and return to full-power operation.] on [Power Management] tab.

## ■ Addition of LAN adapter

When this PC is operated as a client and a LAN adapter is added, the adapter cannot be used simultaneously with the standard LAN function.

To use several LAN adapters at the same time, a server OS such as Windows NT 4.0 Server and Windows 2000 Server is required.

## ■ Precautions on using display

Depending on the setting of the display used (ex. resolution), the thicknesses of the vertical and horizontal lines may seem to be different on CAD or other application. If such difference is detected, adjust the setting.

## ■ Replacement of display

If the display is replaced with a different type (especially with an LCD), a display error such as a blank screen may occur. In this case, replace the display as follows:

### ● For Windows NT model

- 1 Turn the PC off and replace the display.
- 2 Start the PC with Windows NT Workstation Version 4.00 [VGA mode].
- 3 Set the resolution, number of colors, and refresh rate in accordance with the display specifications, and restart the PC.

### ● For Windows 2000 model

- 1 Set the resolution to 640 x 480 and colors to 256 (the settings before replacement).
- 2 Set the refresh rate to “60Hz” (the setting before replacement).
- 3 Close Windows, turn the PC unit off, and replace the display.

If nothing appears or some resolutions are unavailable after the display is replaced without the above setting, reinstall the display driver as follows:

- 1 Start Windows in the “VGA mode”.
- 2 Reinstall the display driver.

## ■ Making a sound when starting and exiting Windows (for Windows NT models)

When speakers are not connected to your PC, you hear a sound when starting and shutting down it, which should not be considered a trouble. In this case, adjust the volume as follows:

- 1 **Right-click the speaker icon on the taskbar, then click [Open Volume Control]. [Master Volume] dialog box appears.**
- 2 **Adjust the volume by moving the volume knob under [Master Volume] or [Wave Output] up and down.**

## ■ ACPI standby mode (Windows 2000 models)

With your PC, standby mode is preset to Advanced (ACPI S3). (On IDE-RAID models, it is preset to Standard (ACPI S1)). Be aware of the following:

- Pressing the power switch for more than 4 seconds during standby causes the PC power to shut down.  
The system may not boot if you press the power switch again.  
In that event, unplug the power cable, re-plug it at least 10 seconds after before turning PC power on.
- On Windows 2000 models with a USB device connected, the system may detect a USB device again when returning from standby mode. This does not practically indicate a problem.

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