# DESKPOWER 5000 Series User's Manual

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DECLARATION OF CONFORMITY
according to FCC Part 15 Class B

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

Wesbite: www.fujitsu-pc-asia.com

# 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 recommeded 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).

**16. NOTE:**
**Please take extra precaution when connecting the LAN cable; do not connect the LAN cable to the peripheral device's connector, that might have excessive voltage.**

# Before Starting Your PC

**For Safe Operations**
This manual contains the important safety information for using DESKPOWER.
Read this manual thoroughly before using your PC.

This equipment may be adversely affected by the momentary drop of supplied voltage due to lightning. An uninterruptible AC power supply is recommended to use against the momentary drop of supplied voltage.
(This message is based on the Japan Electronic Industry Development Association's guidelines for measures against momentary voltage drop in PCs.)

This equipment is compliant with the PC industry standard (PC-11-1988) of the Japan Electronic Industry Development Association.

**Cautions**
This equipment is a class-B information technology equipment based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). Although the equipment is intended for use in residential environments, it may create a radio interference if placed near a radio or a television set.
Follow the PC system handling instructions of operator's guide.

Fujitsu, as a member of the International Energy Star Program, recognizes that this equipment is compliant with the standard of the International Energy Star Program.
The International Energy Star Program is a worldwide program for promoting energy saving for computers and other office equipment. The program aims at promoting the development and use of products equipped with the functions that can effectively reduce energy consumption and uses a voluntary system that allows enterprises to join at their own discretion. The target products are office equipment including computers, displays, printers, facsimiles, and copying machines. The standards for individual types of equipment and the mark ( ) prepared by the Program are used commonly among member countries.

Since this equipment contains special materials controlled by the Foreign Exchange and Foreign Trade Control Law. Authorization under the law is required to export this equipment.

**Safety product applications**
This product is intended to be used in ordinary business, personal, or home applications as it has not been designed or produced to meet the highly safety application requirements.
Do not use this product in an environment where the highly safety application requirements are not satisfied.
The highly safety application means an application environment where the following safety control means shall be provided to avoid a serious safety problem.
- Nuclear control, aviation control, air traffic control, mass transport control, life support, weapon launch control and others

This product contains certain components having the limited service life (such as a CRT or LCD display and a hard disk unit), and you may need to replace them earlier than the usual service life if you operate them continuously.

## Conventions used in this manual

**Warning messages**
This manual uses various pictorials. This manual uses various safety signs and symbols so that you can use the PC system safely and prevent personal injury and/or property damage. The following gives the signs and their explanations. Be familiar with these signs before proceeding to the subsequent sections of this manual.

**⚠ CAUTION** This indicates a hazardous situation that could result in death or severe injury if the user does not perform the procedure correctly.

**⚠ WARNING** This indicates a hazardous situation that could result in personal injury or property damage if the user does not perform the procedure correctly.

In addition to the above signs, the following symbols are used to provide detailed information concerning personal injury and/or property damage:

The symbol marked with [ △ ] dicates a warning or caution item. An explanation of an alert is presented in or beside the symbol.

The symbol marked with [ ⃠ ] indicates what must not be done (prohibited action). The meaning of a direction is presented in or beside the symbol.

The symbol marked with [ ● ] indicates what must be observed. The meaning of a direction is presented in or beside the symbol.

**Symbols used in the text**
The following symbols are used in the text of this manual.

◎ **Important** The statement provided with this symbol explains cautions on use or what must not be done. Read this section carefully.

⊙ **Point** The statement provided with this symbol explains what is required to operate hardware or software correctly. Read this section carefully.

**Representation of keys and their operation method**
Key names used in this manual are not exactly represented with the characters appearing on the keyboard but are represented with characters needed for explanation as follows:

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

Two or more keys that must be pressed simultaneously are represented by the combination of "+" sign and following keys:

**Example: [Ctrl] + [F3] keys, [Shift] + [↑] keys**

**Command entry (from keyboard)**
A command entry is represented in this manual as follows:

**diskcopy a: a:**
↑ ↑

- If two letters are separated by a space as indicated by the top arrow, press the [Space] bar once. Commands, an example of which is given above in lowercase, can also be entered in uppercase.
- [CD-ROM drive] indicates the name of CD-ROM drive being used. Enter the drive name in accordance with your PC environment.
  **[CD-ROM drive]:¥setup.exe**

**Sample screens**
Only the typical examples are shown in this manual. The screens and file names shown in this manual may differ from actual ones.

**Illustrations**
The illustration shows typical examples only in this manual. The peripherals you actually use may differ from those explained in this manual.

**Representation of continuous operation**
Continuous operation steps are shown using the "→" sign as follows:
Example: Choose the Start, Program and Accessories in this order.
↓
Click [Start] → [Program] → [Accessories]

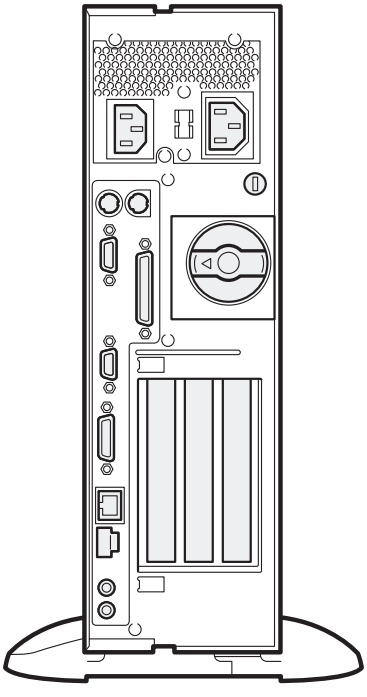
**Reference to products**
In this manual, the following products are referred to as follows:

| Product name | Name used in this manual | |
|---|---|---|
| Microsoft® Windows® Millennium Edition | Windows Me | Windows |
| Windows Microsoft® Windows® 98 operating system SECOND EDITION | Windows 98 | |
| Microsoft® Windows® 2000 Professional | Windows 2000 | |
| Microsoft® Windows NT® Workstation Operating System Version 4.0 | Windows NT | |
| DESKPOWER | The PC or PC unit | |

## Warning and caution labels

Your PC bears the warning and caution labels as shown below.
Never detach or soil the warning or caution labels.

### Rear surface of the equipment



DESKPOWER
MODEL FPC-D90000
P/N CP112093-01
200-240V(1.75A)/100-120(3.5A) 50/60Hz
LISTED UL1950 7J61
MADE IN SINGAPORE
By Fujitsu Limited Japan(J)
FUJITSU LIMITED

**WARNING**
Electric shock
To prevent electric shock, switch off the PC and connected peripherals and unplug power cords from respective outlets before disassembling the unit and installing a built-in option.

### ⚠ ATTENTION

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

### ⚠ WARNING

Electric shock

- Before starting to mount or dismount an optional unit for your PC, switch off the PC and all units linked to it, and unplug them from their respective outlets. Otherwise, electric shock may occur.

# 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 peripherals installed (or can be installed) on the PC.

## Chapter 3 Troubleshooting

This chapter explains the BIOS Setup program used to set the date or energy-saving mode of the PC. In addition, this chapter describes how to define a password to protect the data stored on the PC.

## Chapter 4 Technical Information

This section explains what you should do when a problem occurs on the PC. Read this section as necessary.

# Content

## CHAPTER 1 Introduction

## CHAPTER 2 Hardware



## CHAPTER 3 Troubleshooting



## CHAPTER 4 Technical Information

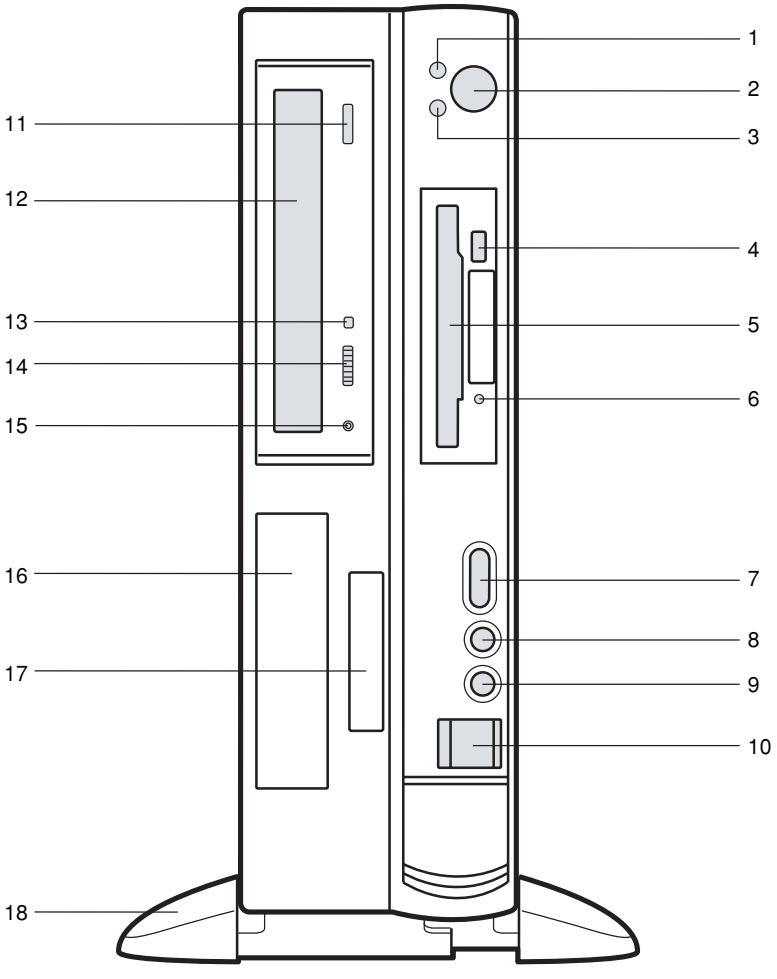
# CHAPTER 1

# Introduction

# 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 Power lamp**
This lamp lights up when the PC is on.
It lights up in green when the PC is in operation and in orange when the PC is in the standby (power-saving) mode.

**2 Power switch**
Press this switch to turn on the PC or set the system to the standby mode.

**3 Hard disk access lamp**
This lamp lights up while the hard disk is accessed.

**4 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 drive access lamp is on.

**5 Floppy disk drive**
This drive accommodates a floppy disk for writing and reading data.

**6 Floppy disk drive access lamp**
This lamp lights up while the floppy disk drive is accessed.

**7 Volume**
Use this control to adjust the volume of the speaker or headphones.
Turn this control upward to increase or downward to decrease the volume.

**8 Headphone jack**
When listening to sound output from the PC or a music CD with headphones, plug them to this jack.

**9 Microphone jack**
Plug a capacitor microphone to this jack.

**10 USB connector**

**11 Eject button**
Press this button to insert or remove a CD-ROM or music CD. This button can be used when the PC is on. Do not press this button when the Busy lamp is on.

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

**13 Busy lamp**
This lamp lights up while data is read from the CD-ROM drive or a music CD is played.

**14 Headphone volume (only for music CDs)**
Use this control to adjust the volume of headphones.

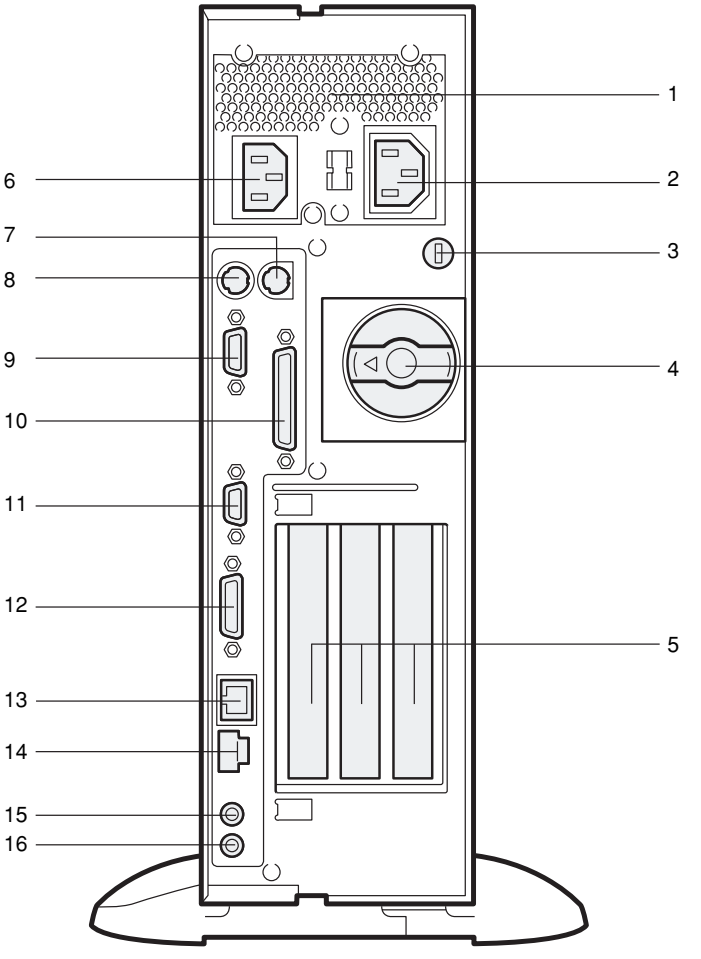
**15 Headphone jack (only for music CDs)**
When listening to a music CD with headphones, plug them to this jack.

**16 Front access bay**
Use this bay to install an optional 3.5-inch device.

**17 Smart Card bay**
Use this bay to install a Smart Card reader/writer.

**18 Foot**
Used for placing the PC.
This also prevents the PC in a vertical placement from tipping over.

## Rear of the PC unit



**1 Venthole**
An opening provided to let heat go out of the PC.

**2 Outlet**
Connect the power cable of the display to this outlet.

**3 Burglarproof lock**
A commercial burglarproof cable can be connected here.

## ⊙ Point

- The burglarproof lock supports the Microsaver security system of Kensington.

**4 Upper knob**
This locks the upper cover.

**5 Expansion card slots**
Insert an expansion card to this slot.
This slot accommodates a PCI card.

**6 Inlet**
Connect the power cable of the PC unit to this connector.

**7 Mouse connector**
Connect a mouse.

**8 Keyboard connector**
Connect the keyboard.

**9 Serial connector**
Connect the cable of an RS-232C device.

**10 Parallel connector**
Connect the cable of a printer or scanner.

**11 CRT connector**
Connect the cable of an analog RGB display.

**12 DVI connector**
Connect the cable of a DVI display.

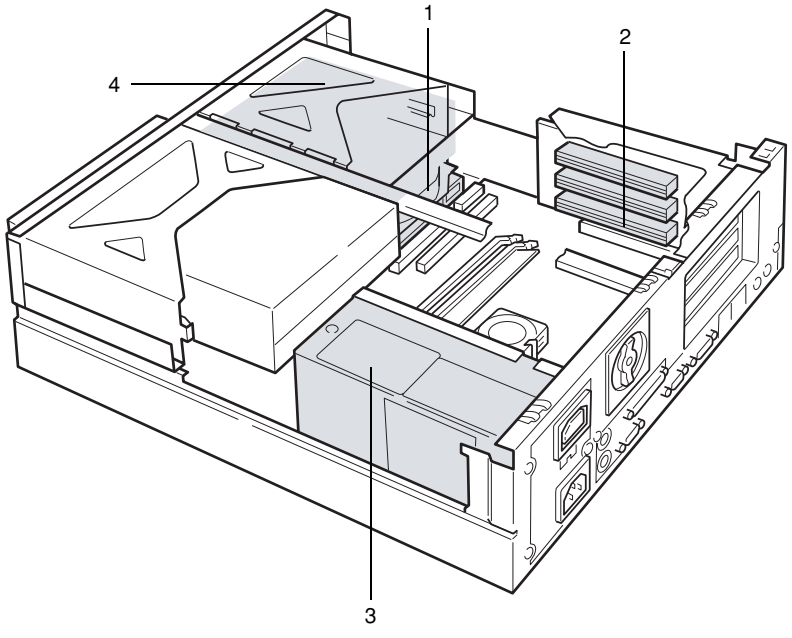
**13 LAN connector**
Connect the LAN cable.

**14 USB connector**

**15 LINE IN terminal**
A terminal for sound input. Connect the output terminal of audio equipment to this terminal.

**16 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.

## Inside the PC unit



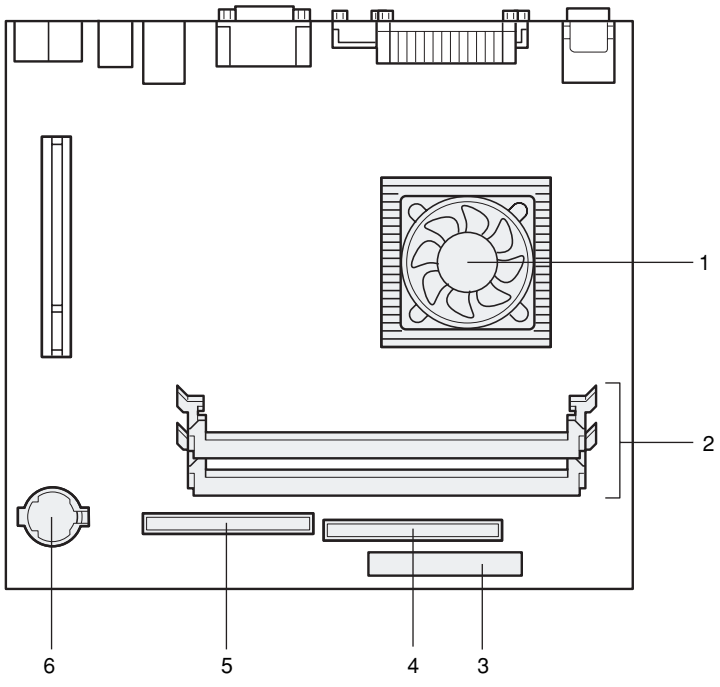

**1 Internal hard disk drive**
This is an IDE-compliant hard disk drive.

**2 Expansion card slots**
Insert an expansion card to this slot.
This slot accommodates a PCI card.
A SCSI card allows you to use an external hard disk drive or magneto-optical disk drive.
Note that this PC does not support internal SCSI options.

**3 Power supply unit**

**4 3.5-inch front access bay**
An internal IDE option (for example, magneto-optical disk drive) can be installed.

## Motherboard




**1 CPU**

**2 DIMM 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.
When seen from the front of the PC unit, the far one is the DIMM1 slot and the near one is the DIMM2 slot.

**3 Floppy disk drive connector (FDD)**

**4 Secondary IDE connector (IDE2)**
A standard CD-ROM drive is connected.

**5 Primary IDE connector (IDE1)**
A standard hard disk drive is connected.

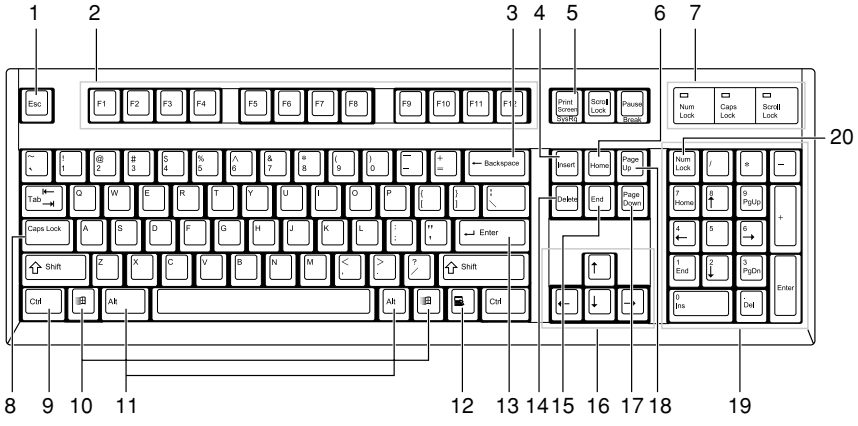
**6 Internal battery**
This battery provides power to retain information on date and time, and settings made in BIOS Setup. The life is about 5 years under normal use.

# 2 Keyboard

This section explains the functions of the keys on the keyboard. The keyboard shown in this diagram is an example. Depends on the model, the keyboard layout may differ but the function of the keys is similar.

## 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).

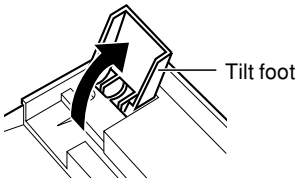
**18 Page Up key**
Press the Page Up key to display the previous page (screen).

**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.

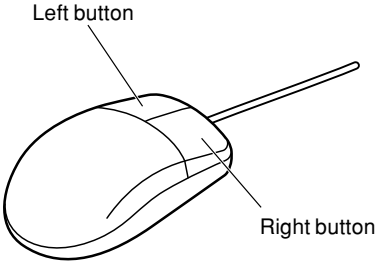
**20 Num Lock (numerical lock) key**
Press the Num Lock key to change the Ten-key pad functions.

## ⊙ Point

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



# 3 Mouse



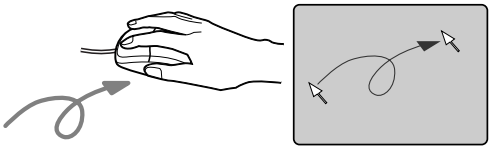

## ⊙ Point

- Clean the mouse regularly.

## Using the mouse

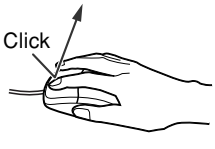
### Moving the mouse

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.



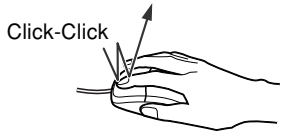
### Using the mouse buttons

**Clicking**

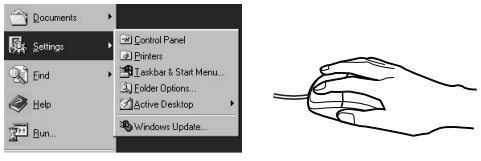



Clicking is a series of action of pressing and releasing the left mouse button once.
Clicking the right mouse button is particularly called “right-clicking.”

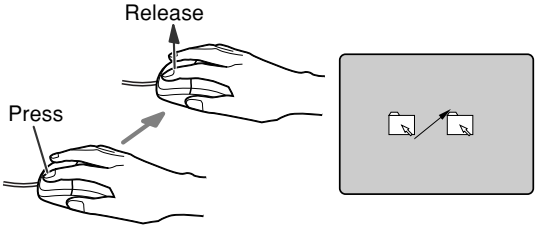
**Double-clicking**
Double-clicking is a series of action of pressing and releasing the left mouse button twice.




**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.




## ⊙ 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 where and how to install 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

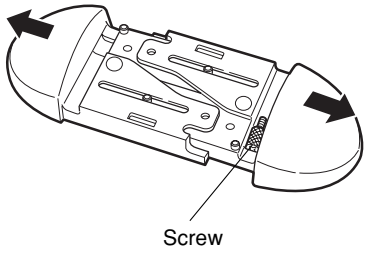
## Mounting the feet

### Vertical placement

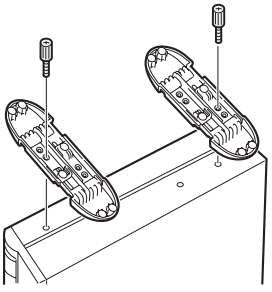
**Using two feet**

Take the following steps to place your PC vertically off a wall.

**1 Adjust the feet to the width of the PC unit.**
For adjustment, remove the screw from the feet.

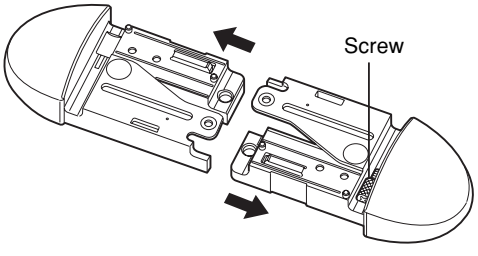


**2 Mount the feet on the PC unit.**
Fix the feet using the screw hole in the bottom of the feet.
Use the screw you have removed in step 1.

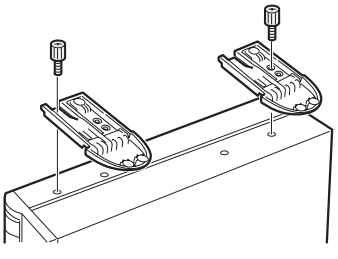


**Using one foot**
Take the following steps to place your PC vertically on a wall.

**1 Disassemble the feet.**
Remove the screw from the feet.



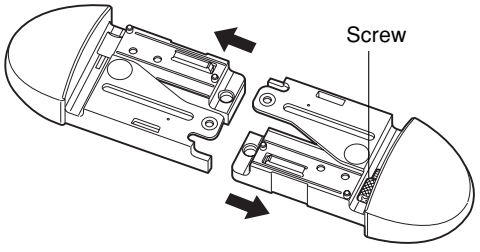

**2 Mount the disassembled foot on the PC unit.**
Fix the feet using the screw hole in the bottom of the feet.
Use the screw you have removed in step 1.



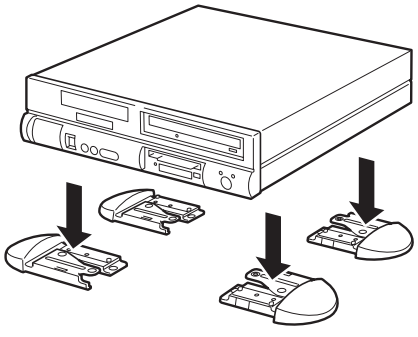
## Horizontal placement

**1 Disassemble the feet.**

Remove the screw from the feet. Keep the removed screw.

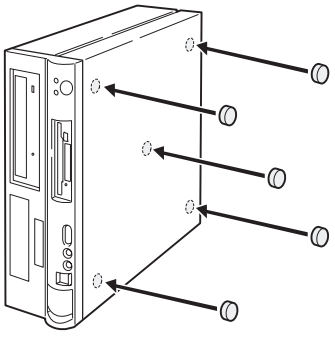



**2 Place the PC unit on the disassembled feet.**



## ◎ Point

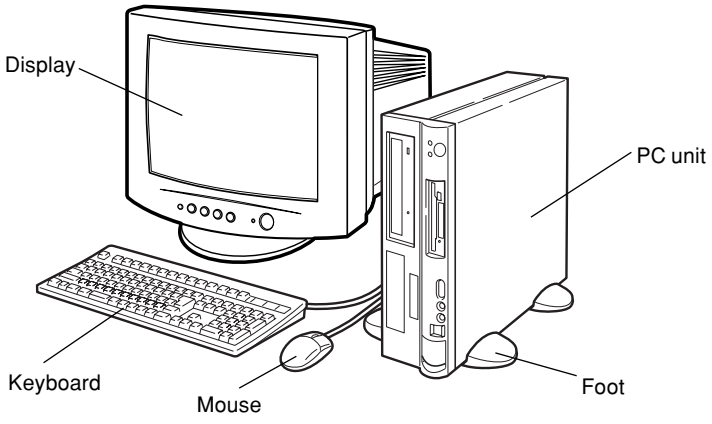
- The PC unit can be installed horizontally by using five rubber feet at the center and four corners of the PC body.
  When using the rubber feet, avoid interference with the foot for vertical placement.
  Clean the areas for the rubber feet before attaching them.
  Do not drag the PC unit with rubber feet.



## Example of installation

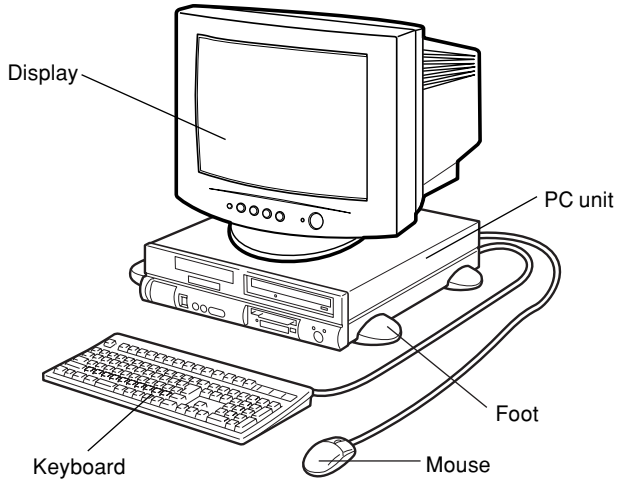
Install your PC as shown in the figures below.
The PC unit can be installed either vertically or horizontally. Pay attention not to block the ventholes on the back of the PC unit.

## Vertical placement




## Horizontal placement

You can place a display (17 inches or smaller, weighing 19 kg or less) on the PC unit.




### ⊙ Point

- The remaining part of this manual assumes vertical placement. When you place the PC unit horizontally, be careful about geometrical difference.

# 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, 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 devices 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.

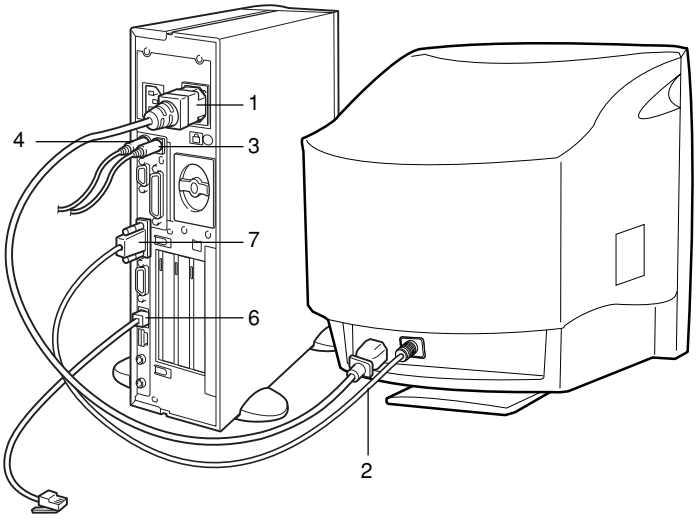
Injury

- When accessing the PC board, touch the specified areas only.
  Otherwise, you may be injured or a fault may occur.

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

### ⊙ Point

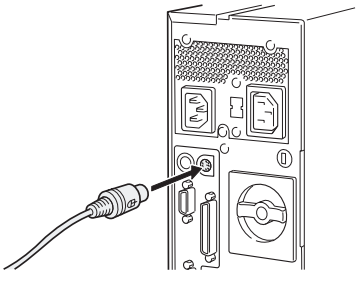
- As a LAN cable, use a commercially available twisted pair cable.




**1 Connect the power cable to the outlet.**
Plug the supplied power cable (for display) to the outlet on the back of the PC unit.

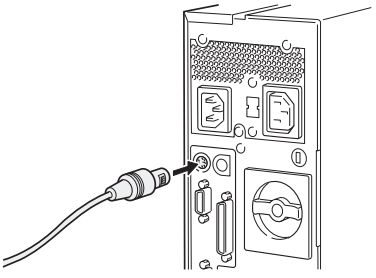
**2 Connect the power cable to the display.**
Plug the supplied power cable (for display) to the inlet on the back of the display.

**3 Connect the mouse.**
With the mark on the connector of the mouse cable facing right, plug the connector into the mouse terminal on the back of the PC unit, labeled with a mouse symbol of the same color as the mouse connector.



**4 Connect the keyboard.**

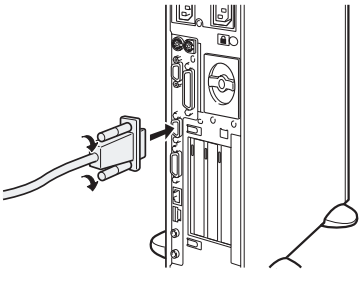
With the mark on the connector of the keyboard cable facing right, plug the connector into the keyboard terminal on the back of the PC unit, labeled with a keyboard symbol of the same color as the keyboard connector.



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

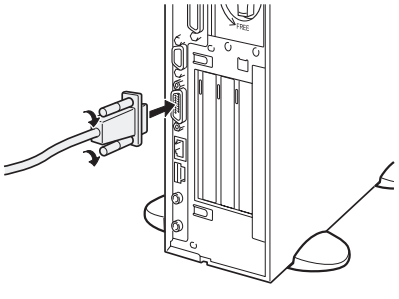
Connect the display cable connector to the display connector on the back of the PC unit and tighten the cable connector screws.

• Connecting to the CRT connector



• Connecting to the DVI connector

* For connection, see “Cautions on using a digital display.”



**6 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.

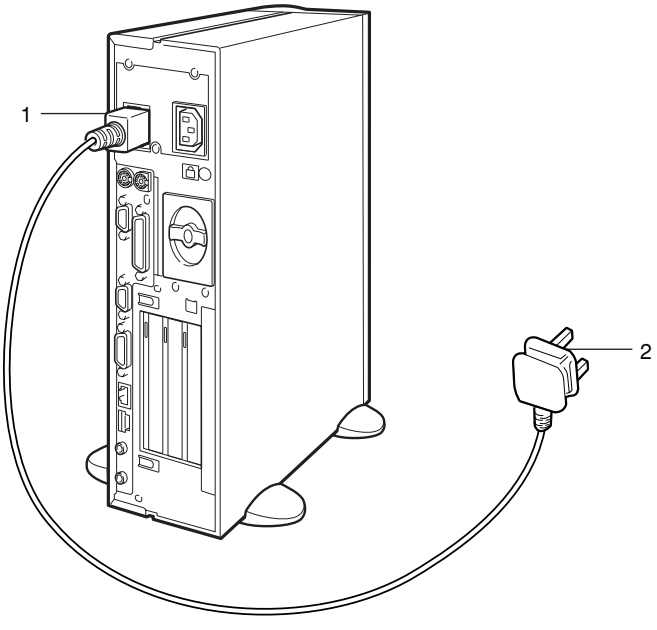
**7 Connect the LAN cable to the network.**

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

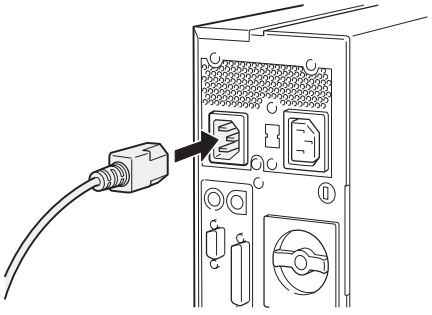
## Connecting the power cable

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 not to be used for an extended time, disconnect the power cable from the outlet.



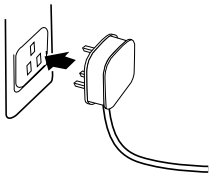
**1 Connect the power cable plug to the inlet on the back of the PC unit.**



**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

## Cautions

- The Power lamp lights up in orange in the standby mode.
- Before turning on the PC power, confirm that the display is connected to the PC unit. If the PC power is turned on with the display disconnected, the system fails to recognize the display adapter and the screen may not be displayed normally. In this case, analog display users should connect the display, terminate the OS, turn off the PC and turn on the PC again.
- When you use a digital display that takes power directly from a wall outlet, make sure that it is turned on before turning on the PC. The digital display does not work if it is turned on after the PC unit. Turn off the PC unit once and turn on the display and turn on the PC unit.
- 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.
  Therefore, the display power is automatically turned on each time the power switch on the PC is pressed as in step 2 below.
- If the screen display is not centered, check if the screen refresh rate is set in accordance with the display. If the problem persists, adjust the display.
- When turning off the PC immediately after you turn it on, wait for the OS to startup and turn off the power according to “Turning Off the Power”.
- At the beginning of a screen display (such as the Windows startup and shutdown screen) or when the display mode is changed (for example, from the power-saving mode to the normal mode), the screen may be distorted temporarily or display horizontal lines. This does not indicate a fault.
- When the PC is turned on, the system performs POST (Power-On Self-Test) to check the internal hardware components. Meanwhile, the Fujitsu logo appears on the screen. Do not turn off the system during POST. When the POST detects an error, an error message is displayed.
- During system startup (including contract on unpacking) or system shutdown, or when the Virus Scan window appears, the band-like noise may appear for a second. This does not indicate a fault.
- When the upper cover has been removed for installing a peripheral device, make sure that the cover is installed before turning on the power.
- When turning on the power after turning it off, wait at least 10 seconds.

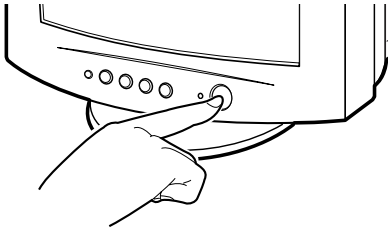
## Turning on the power

### ⚠ WARNING

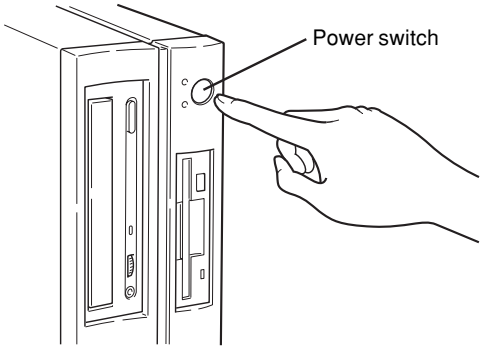
Prohibited action

- 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 switch on the display.**
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 in green.
When the PC is turned on, the Fujitsu logo appears, then the system starts up.




After power-on, set up Windows.

# 7 Turning Off the Power Supply

## Cautions

- Before turning off the power, terminate all work and save data.
- Before turning off the power, confirm that the Floppy disk drive access lamp and the Hard disk drive access lamp 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.
- If the power cable is pulled out from the outlet while the power is on or if power is interrupted by a power failure, connect the power cable to the outlet again or wait until the power is restored. You do not have to press the power switch. Once the power is restored, the PC automatically turns on and starts up. However, when [Power-saving settings] - [Action at AC power restoration] of BIOS Setup is set to [Power off], the system does not turn on.
- On Windows 95 models, when [Power saving by APM] of BIOS Setup is set to [Disabled], they do not turn off automatically.
- Do not turn off the system during POST (power-on self-test). After the OS starts up, turn off the system in the following procedure.
- If the system does not shut down or restart in the normal procedure, press the power switch for four or more seconds until the power is turned off. However, use this procedure in an emergency only, because this may damage the hard disk.

## Turning off the power

### Windows Me

1 **Click the [Start] button, then click [Shut down Windows].**
The [Shut down Windows] dialog box appears.

2 **Select [Shutdown] and click [OK].**
The power is turned off.

### ⊙ Point

- The power can be turned off in the following procedure.
  1 Press the [Ctrl] + [Alt] + [Delete] keys.
  The [Abort programs] dialog box appears.
  2 Click [Shutdown].
  The power is turned off.

### Windows 98/95

1 **Click the [Start] button, then click [Shut down Windows].**
The [Shut down Windows] dialog box appears.
2 **Click [Shut down the computer], then click [OK].**
The power is turned off.

#### ⊙ Point

- The power can be turned off in the following procedure.
  1 Press the [Ctrl] + [Alt] + [Delete] keys.
  The [Abort programs] dialog box appears.
  2 Click [Shutdown].
  The power is turned off.

### 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 turned off.

#### ⊙ Point

- The power can be turned off 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.
  3 Select [Shutdown] and click [OK].
  The power is turned off.

### Windows NT

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].**
The power is turned off.

#### ⊙ Point

- The power can be turned off in the following procedure.
  1 Press the [Ctrl] + [Alt] + [Delete] keys.
  The [Windows NT security] dialog box appears.
  2 Click [Shutdown].
  The [Computer shutdown] dialog box appears.
  3 Click [Shut down and turn off the power], then click [OK].
  The power is turned off.

### If the system does not respond even though you press the [Ctrl] + [Alt] + [Delete] keys

Press the power switch for more than 4 seconds.

# 8 Restarting

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

### Point

- Restarting the PC clears data in the memory. Save data before restarting the PC.

## Restarting the PC

### Windows Me

**1 Click the [Start] button, then click [Shut down Windows].**
The [Shut down Windows] dialog box appears.

**2 Select [Restart] and click [OK].**
The PC is restarted.

### Point

- If the PC cannot be restarted according to above procedure, proceed as follows:
  1 Press the [Ctrl] + [Alt] + [Delete] keys.
  The [Abort programs] dialog box appears. Proceed as instructed by the messages.

### Windows 98/95

**1 Click the [Start] button, then click [Shut down Windows].**
The [Shut down Windows] dialog box appears.

**2 Click [Restart], then click [OK].**
The PC is restarted.

### Point

- If the PC cannot be restarted according to above procedure, proceed as follows:
  1 Press the [Ctrl] + [Alt] + [Delete] keys.
  The [Abort programs] dialog box appears. Proceed as instructed by the messages.

### Windows 2000

**1 Click the [Start] button, then click [Shut down].**
The [Shut down Windows] dialog box appears.

**2 Select [Restart] and click [OK].**
The PC is restarted.

#### ⊙ Point

- The PC can be 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.
  3 Select [Restart] and click [OK].
  The PC is restarted.

### Windows NT

**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 restarted.

#### ⊙ Point

- The PC can be restarted in the following procedure.
  1 Press the [Ctrl] + [Alt] + [Delete] keys.
  The [Windows NT security] dialog box appears.
  2 Click [Shutdown].
  The [Computer shutdown] dialog box appears.
  3 Click [Shut down and reboot], then click [OK].
  The PC is restarted.

# 9 CD-ROM

This PC has an optional CD-ROM or CD-R/RW drive. 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

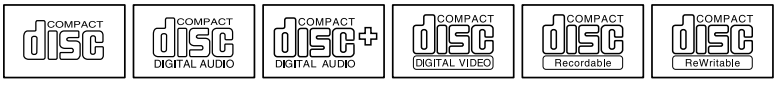
- Do not use a ball-point pen or pencil on the label (printed side). Do not affix a label.
- Do not touch or damage the data side.
- Do not bend or compress them.
- If the CD gets dirty or wet, wipe it with a dry soft cloth from the center to the edge. Do not use a cleaner.
- Keep them dry.
- Do not 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 drive cleaning disc may place dust on the lens. Do not use a CD-ROM drive cleaning disc.
- To use an 8-cm CD on the PC installed vertically, use a commercially available adapter.

### ⊙ 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.

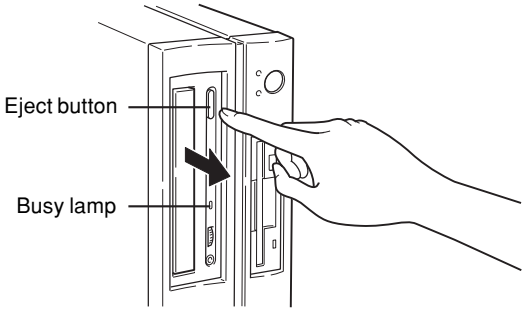



*CDs with a mark indicated by an asterisk can be used on CD-R/RW drives to write data.

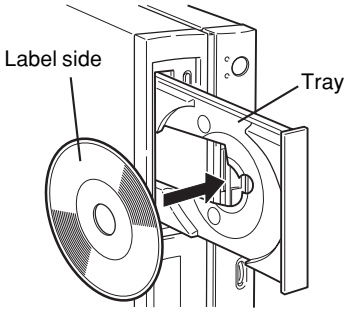
## Inserting or removing a CD

### Inserting a CD

**1 Press the Eject button.**
Pressing the center of the eject button opens the CD tray.




**2 With the label facing left, place a CD in the center of the tray.**




#### ⊙ Point

- On some CD-ROM drives, when the PC is installed in a vertical position, you must extend stoppers to prevent the CD from falling.

**3 Press the Eject button.**
The tray slides into the drive to load the CD.

#### ⊙ Point

- The Busy lamp lights up when the CD is loaded. Wait until the lamp goes off, then proceed to the next operation.

### Removing the CD

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

# 10 Floppy Disk

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 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 affix two or more labels.
- Keep them free from condensation or moisture.

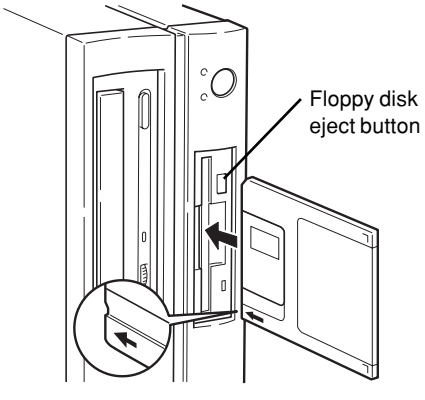
## Inserting or removing a floppy disk

### ⊙ Point

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

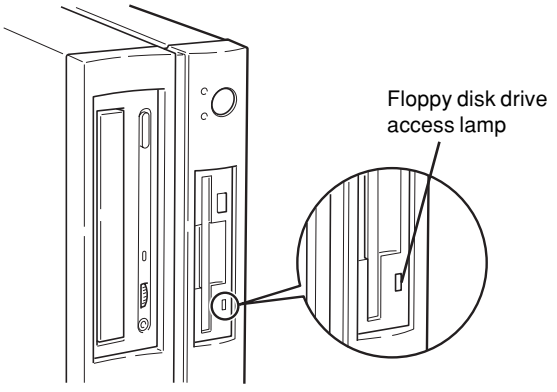
### Inserting a floppy disk

1 **With the label side on the left and the shutter end on the front, insert a floppy disk 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 drive access lamp is on. Data stored on the disk may be damaged.

**2 Press the Floppy disk eject button.**
The floppy disk comes out.

# CHAPTER 2

# Hardware

# 1 Before Installing a Peripheral Device

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

## ⚠ WARNING

Electric shock

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

## ⚠ CAUTION

Injury

- 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.

Failure

- 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.

- Some peripheral devices may not be used on your PC.
  Before purchasing a peripheral device, refer to the “System configuration diagram” to determine whether the peripheral device can be used on your PC.
- 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.
- After removing the feet, place the PC unit on a soft cloth.
  Placing the PC directly on a hard surface may cause scratches on 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-conforming devices. (Windows Me/98/2000)
  This PC conforms to the ACPI standard (one of the power supply control standards for power saving). When you use a peripheral device on an ACPI-conforming OS, ask the device manufacturer if your device conforms to ACPI. Non-conforming devices may not work properly.
- 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.

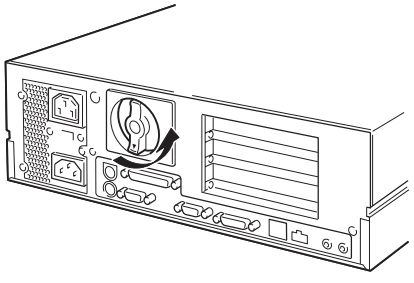
# 2 Removing the Cover

When mounting a peripheral device, remove the upper cover and reinforcement bracket so that the inside can be seen.

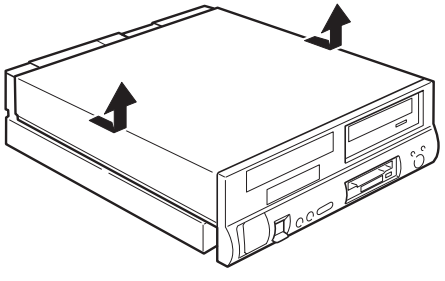
## Removing the upper cover

Remove the feet, if any, from the PC unit. Place the PC unit in a horizontal position and remove the upper cover.

**1 Turn the upper knob on the back of the PC unit counterclockwise.**
Turn the on the upper knob to the “FREE” position.



**2 Remove the upper cover.**
Slide the upper cover to the front of the PC unit and lift it for removal.

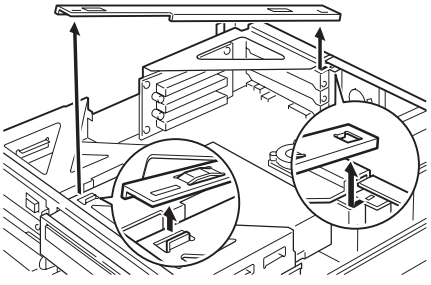


### ⊙ Point

- For installation, use the removal procedure in the reverse order.

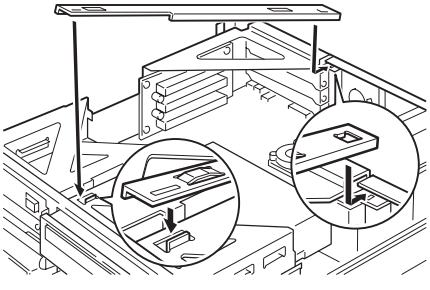
## Removing the reinforcement bracket

Lift the reinforcement bracket and move it to the front of the PC unit for removal.



### ⊙ Point

- Install the reinforcement bracket by mating the projections on the PC unit with the holes in the bracket.



# 3 Installing 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 to your PC, set up Windows, turn off the PC, and then install the memory module.

## ⚠ 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.

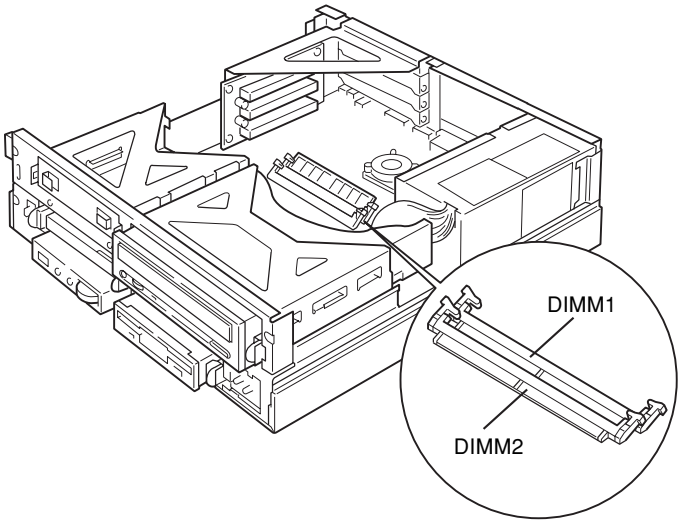
Injury

- When accessing the PC board, touch the specified areas only.
  Otherwise, you may be injured or a fault may occur.

# Memory module installation procedure

## Location of memory modules

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




## Applicable memory modules

Use Fujitsu-supplied memory modules, 168-pin SDRAM DIMM memory modules.
Up to 512 megabytes (256 MB x 2) of memory can be installed on the PC.
In the standard configuration, slot DIMM1 has a memory module. Insert an additional memory module into slot DIMM2.
The memory module in slot DIMM1 must be changed depending on the total memory capacity you want. To obtain a memory capacity of 512 MB, change the memory module in DIMM1 to a 256-MB module.

## Memory module combinations

| DIMM1 | DIMM2 | Total memory capacity |
|---|---|---|
| 64 MB | — | 64 MB |
| 64 MB | 64 MB | 128 MB |
| 64 MB | 128 MB | 192 MB |
| 64 MB | 256 MB | 320 MB |
| 128 MB | — | 128 MB |
| 128 MB | 128 MB | 256 MB |
| 128 MB | 256 MB | 378 MB |
| 256 MB | — | 256 MB |
| 256 MB | 256 MB | 512 MB |

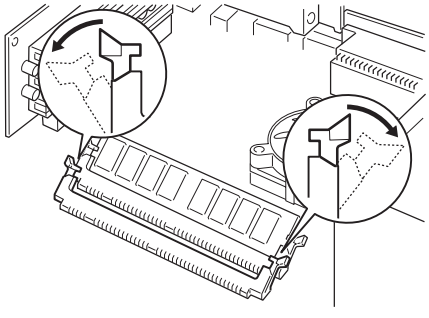
## Installing Memory Modules

**1 Unplug the PC.**

**2 Remove the upper cover.**

**3 Remove the reinforcement bracket.**

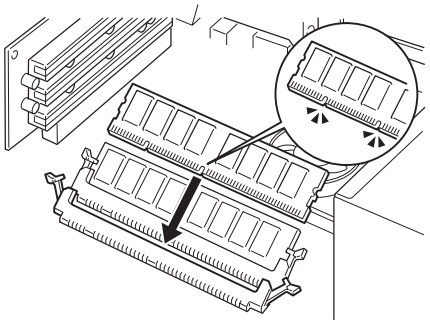
**4 Pull the hooks on both sides of the slot outward.**



**5 Insert a memory module into the slot.**

Insert the memory module upright into the slot while aligning the notch on the memory module with that on the slot.

When the memory module is inserted correctly, the hooks on both side rise. Make sure that the hooks hold the memory module securely.



**6 Reinstall the reinforcement bracket.**

**7 Reinstall the upper cover.**

## ⊙ Point

- To remove the memory module, pull the hooks on both sides of the slot outward.
  Do not pull the hooks too violently. Otherwise, the memory module may jump out of the slot and become faulty.

# 4 Installing an Expansion Card

Expansion cards are used to enhance the PC functions.

## ⊙ Point

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

## ⚠ WARNING

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.

## ⚠ CAUTION

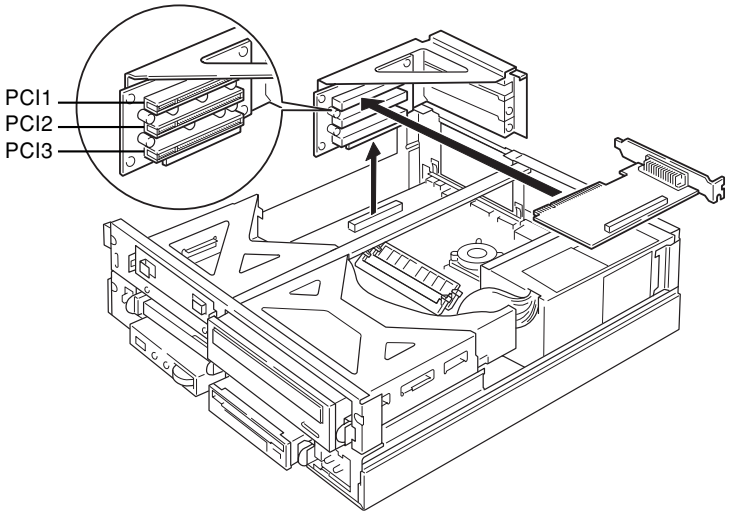
Prohibited action

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

Injury

- When accessing the PC board, touch the specified areas only.
  Otherwise, you may be injured or a fault may occur.
- Do not touch the metal fittings on the back of the motherboard. Otherwise, you may be injured or a fault may occur.

## Location of expansion cards




## Applicable expansion cards

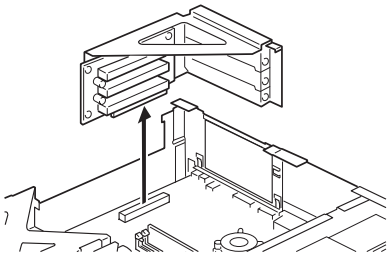
The PC is provided with slots for PCI cards.
Slots PCI1 and 2 hold expansion cards with a maximum length of 176 mm (half size), and slot PCI3 accommodates expansion cards with a maximum length of 120 mm.
For expansion cards to operate, “resources” must be assured.
The floppy disk drive or hard disk drive built in the PC uses a path predetermined for each device to exchange data with the CPU or memory. These paths have subclasses including I/O port addresses, DMA channels, interrupt levels (IRQ), which are collectively called “resources.”
The PC accommodates an expansion card for the PCI bus.
Since expansion cards for the PCI bus support Plug & Play, they set resources automatically.

## Installing an Expansion Card

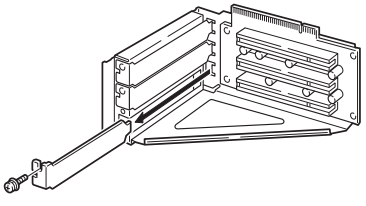
**1 Unplug the PC.**

**2 Remove the upper cover.**

**3 Remove the mounting bracket.**
Pull up the mounting bracket vertically.
When an expansion card has been installed, remove the cable from the card and remove the bracket.



**4 Remove the slot cover.**
Remove the screw from the position where the expansion card is installed, and remove the slot cover.

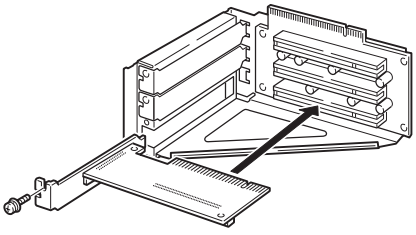


### ⊙ Point

- Keep the removed slot cover.
  Use the cover to keep an empty slot from dust.

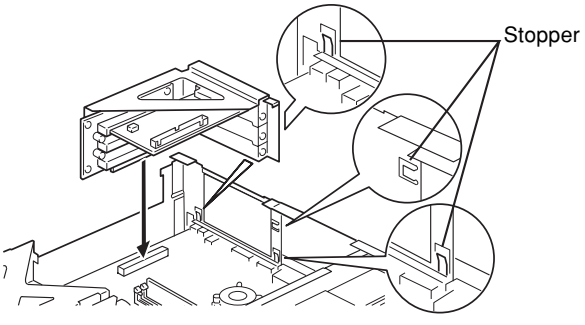
**5 Insert the expansion card into the slot.**

Insert the expansion card into the slot, and secure it with the screw removed in step 4.



**6 Install the mounting bracket.**

Install the reinforcement bracket to the three stoppers on the PC unit.




**7 Reinstall the upper cover.**

## ⊙ Point

- For removal, use the installation procedure in the reverse order.

**8 Plug the PC.**

**9 Turn on the PC.**

**• Windows Me/98/95/2000 models**

The system configures the device driver and resource to enable the expansion card.

## ⊙ Point

- The device drivers automatically selected by Plug & Play are those included in Windows Me/98/95/2000. The device drivers for some expansion cards or peripheral devices may not be included in these operating systems. If so, use a CD-ROM containing the device driver supplied with the expansion card and install it by following the messages.
- Before using the installed expansion card, use Device Manager to check whether the device driver is installed. If not, delete the device driver and then reboot Windows Me/98/95/2000.

**• Windows NT models**

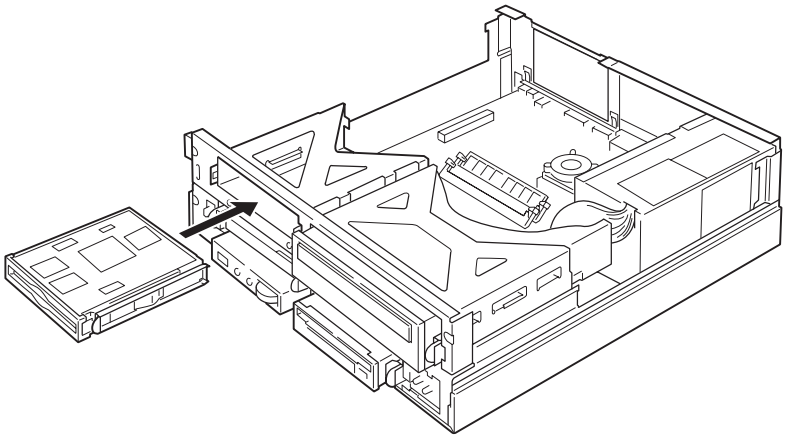
Configure the device driver for the expansion card.

Refer to the manual for the expansion card. Once the device driver is configured, the expansion card is enabled.

# 5 Installing an Internal Option

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

## Location of internal options



## Cautions

- On Windows 98 systems, if you want to disconnect the device from the master connector of the secondary IDE and connect it to the slave connector, you must change the system settings beforehand.
- If you want to install an internal option to your PC, set up Windows, turn off the PC, and then install the option.
- An internal hard disk drive that supports DMA (Multiword DMA1/2, Ultra DMA/33, or Ultra DMA/66) can be used with the DMA setting.
  When installing a hard disk drive or magneto-optical disk drive that does not support DMA, be sure to set DMA to OFF. If it is used with DMA set to ON, the drive may not work properly and may destroy data.
  Refer to the manual for the hard disk drive or magneto-optical disk drive to check whether it supports DMA.
- The secondary IDE does not support Ultra DMA/66 and Ultra DMA/100. Use the secondary IDE in the Ultra DMA/33, Multiword DMA1/2, or PIO mode.
- This PC does not support additional floppy disk drive.

### ⚠ CAUTION

Electric shock

- Before installing or removing an internal 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 internal options.
  Otherwise, an electric shock, a fire or fault may occur.

### ⚠ WARNING

Injury

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

Injury

- When accessing the PC board, touch the specified areas only.
  Otherwise, you may be injured or a fault may occur.

## Installing an Internal Hard Disk Drive

This section explains how to install a second internal hard disk drive to your PC.

### Cautions

To prevent faults, note the following.

- Data is read from the hard disk drive 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 drive in an area where temperature changes sharply in an extremely wide range.
- Do not place the hard disk drive in an area exposed to direct sunlight or near a heater.
- Do not use or store the hard disk drive in an area subjected to shock or vibration.
- Do not use or store the hard disk drive in a humid or dusty area.
- Do not use or store the hard disk drive near a magnet or device that generates a strong magnetic field.
- Do not disassemble or break down the hard disk drive.
- Keep the hard disk drive free from condensation or moisture.

### ⊙ Point

- 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 to back up data not in units of hard disks but in units of files or sectors.

### Installing a device in the 3.5-inch front access bay

In installing the hard disk drive in the front access bay, see “Installing Other Internal Options”.

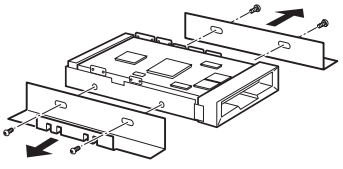
# Installing Other Internal Options

## Installing a device in the 3.5-inch front access bay

This section explains how to install an internal option such as a 3.5-inch hard disk drive or magneto-optical disk drive to your PC. Here is an example of installing a magneto-optical disk drive.

**1 Make a setting on the option to be installed.**
Refer to the manual for the option and make a Master/Slave/Cable Select setting.

**2 If brackets are attached to both sides of the internal option to be installed, remove the brackets.**
Remove the four screws to remove the brackets.

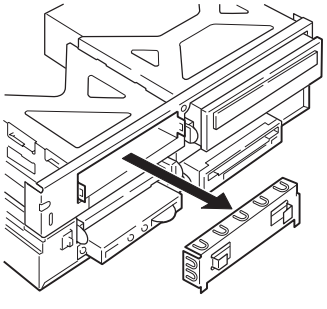


**3 Unplug the PC.**

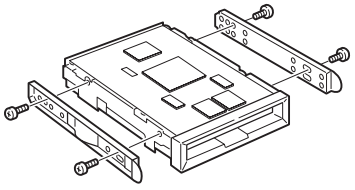
**4 Remove the upper cover.**

**5 Remove the reinforcement bracket.**

**6 Remove the blank panel.**



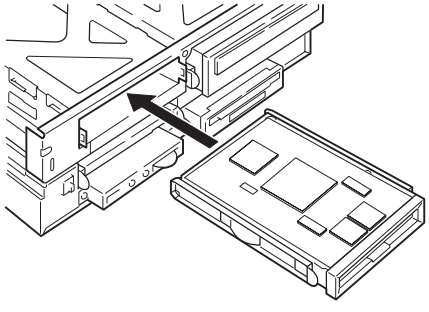
**7 Mount the internal option on the mounting bracket.**
Secure it with the four screws you have removed in step 2.



## ⊙ Point

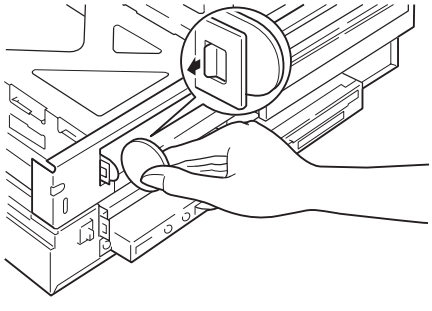
- Different sets of screw holes in the mounting bracket should be used depending on the drive to be installed. Before installation, check the drive name indicated near the screw holes.

**8 Install the internal option on the PC unit.**
From the front of the front access bay, slide the internal option into the PC unit. Sliding it at an angle may scratch the internal option, resulting in a fault.



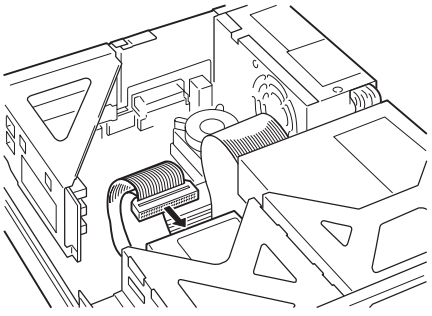
## ⊙ Point

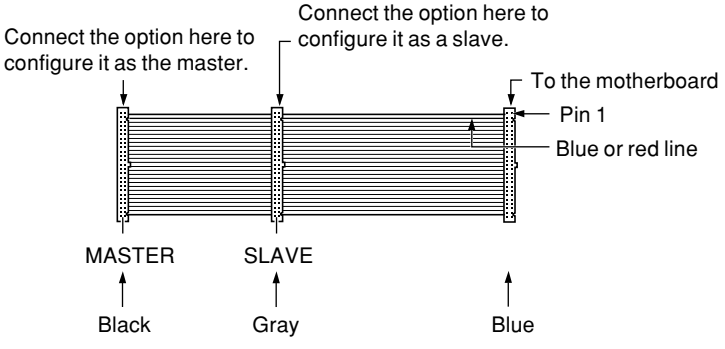
- When the mounting brackets are not locked, lock them using a coin or a similar tool. Doing this by fingers may cause injury.



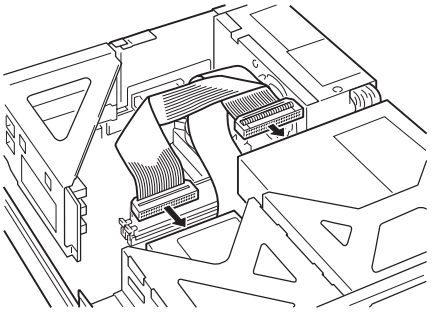
**9 Connect the flat cable.**

Connect the flat cable properly in accordance with the type of the internal option installed.
To use a hard disk drive supporting Ultra DMA/66 or Ultra DMA/100, connect it to the slave of the primary IDE.



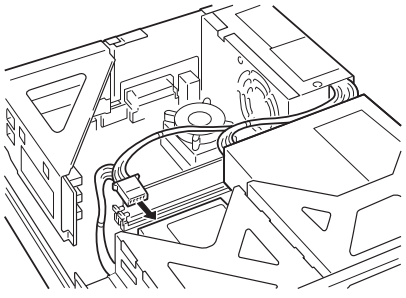



To install a magneto-optical disk drive or a hard disk drive other than the above, disconnect the master secondary cable from the CD-ROM drive and connect it to the magneto-optical disk drive or hard disk drive.
Connect the CD-ROM drive to the slave of the secondary IDE.



**10 Connect the power cable.**

Connect a power cable to the connector on the installed internal option.

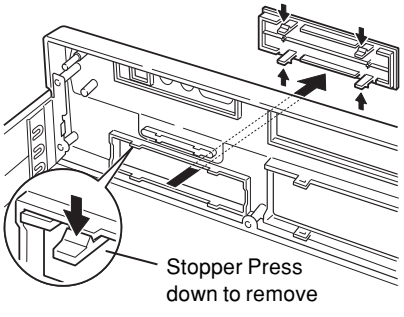


**11 Reinstall the reinforcement bracket.**

**12 Reinstall the upper cover.**

When necessary, remove the blank panel of the 3.5-inch front access bay from the back of the upper cover as shown by the arrow in the figure.

Do not remove the blank panel when installing a hard disk drive.




## ⊙ Point

- For removal, use the installation procedure in the reverse order.
- After installing a hard disk drive or magneto-optical disk drive, take the following steps to configure the disk drive.
  - Windows Me/98/95 models
    When you have installed a hard disk drive, from MS-DOS prompt on the Start menu, use the FDISK command to configure sectors. Then, format the additional hard disk from My Computer.
  - Windows 2000 models
    When you have installed a hard disk drive, configure sectors and format the disk by using Administrate the Disk. Administrate the Disk is under the Storage Area displayed by clicking the [Start] button, [Program], then [Administrate the Computer].
  - Windows NT models
    When you have installed a hard disc drive, configure sectors and format the disk by using Disk Administrator. Disk Administrator is activated by clicking the [Start] button, [Program], then [Administration tools].
- Keep the removed brackets.

# CHAPTER 3

# Troubleshooting

# 1 Problems

This section provides information on functional problems. Read this section as necessary.

**An access lamp stays off**
The PC may be faulty. Contact a Fujitsu Service Center or your retailer.

**Nothing is displayed on the screen**
Check the following.
- Check that the display is turned on.
- Check that the power-saving mode is disabled. Move the mouse press any key.
  If the Power lamp lights in orange, the display may be in S3 of the ACPI mode. Press the power switch. If nothing appears for 30 seconds, press the power switch for four or more seconds to turn off the power.
- Check that the display cable is properly connected.
- Check that the display power cable is connected to an outlet.

**⚠ CAUTION**

Electric shock

- Be sure turn off the power before unplugging or connecting the cable. Otherwise, an electric shock may occur.

- Check that the brightness/contrast is properly set. Use the brightness/contrast dial to adjust the screen.

**The screen sways**
Are there electrical components generating a magnetic field near the display? Move such components away from the display.

**The screen displays nothing on both sides**
Use the display control button to adjust the horizontal screen size.

**Data cannot be written to or read from a floppy disk**
Check the following.
- Check that the head of the floppy disk drive is clean. If not, use a cleaning disk.
- Check that the floppy disk is not write-protected. Move the write-protect notch of the floppy disk to the write-enable position.

**The PC does not turns on or the power lamp on the front does not come on**
Check that the power cable is plugged into a wall outlet.

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

Check the following.

- Check that the CD is correctly placed. Place the CD with the label facing left.
- Check that the CD is placed with the label side left. Place the CD with the label facing left.
- Check that the CD is clean and free of dew condensation or waterdrops. Wipe it with a dry soft cloth from the center to the edge.
- Check that the CD is free of damage or an extreme warp. If so, do not use the CD.
- Check that the CD complies with the standard. Use standard-compliant CDs only.

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

Check that the keyboard is correctly connected.

**The mouse cursor does not move.**

Check that the mouse is correctly connected.

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

Check the following.

- Check that the SCSI card driver is installed. Take the following steps.
  - **Windows Me/98/95**
    1 Double-click the System icon in the Control Panel window.
    2 Click the Device Manager tab to check whether the SCSI controller is registered.
    If the controller is not registered, double-click the Add Hardware icon in the Control Panel window, then detect the SCSI card and install the driver.
  - **Windows 2000**
    1 Double-click the System icon in the Control Panel window.
    2 Click the Hardware tab.
    3 Click Device Manager to check whether the SCSI controller is registered.
    If the controller is not registered, click Hardware Wizard on the Hardware tab (Step 2), then detect the SCSI card and install the driver.
  - **Windows NT**
    1 Double-click the SCSI adapter icon in the Control Panel window to check whether the SCSI controller is registered.
    If the controller is not registered, click Add on the Drivers tab, then install the SCSI card driver.
- Be sure to turn on the SCSI device before turning on the PC. The PC does not recognize SCSI devices if they are turned on after the PC.

**The PC cannot connect to the network**

Check the following.

- Check that the network cable is correctly connected.
- Check that a Category 5 UTP cable for communication at 100 Mbps.
- Check that the ACT/LNK lamp on the hub unit lights up.
- Use the LAN diagnosis function (the Ping command if you use the TCP/IP protocol) to check connection.

## ⊙ Point

- When a LAN driver is installed on Windows NT, the Intel PROSet II icon is registered in the Control Panel window, but the diagnosis function is not available.

# CHAPTER 4

# Technical Information

# 1 Maintenance of the Hardware

## Maintenance of the PC unit

**⚠ CAUTION**


- Before starting maintenance work, turn off the PC and all devices connected to it, and unplug them.
  Otherwise, an electric shock may occur.

- Clean the PC using a soft dry cloth. Wipe remaining dirt off using a damp cloth, moistened with neutral detergent and wrung well. Once the dirt is wiped off, remove the neutral detergent from the PC with a well-wrung cloth moistened with water. Be careful not to let water enter the PC system.
- Clean the ventholes regularly to prevent dust buildup.
- Do not use solvents. Use neutral detergent only. Otherwise, the PC may be damaged.

## Maintenance of the keyboard

Clean the PC using a soft dry cloth.

## Cleaning CDs

- Wipe CD media with a soft cloth from the center to the edge. When a CD is very dirty, use a damp soft cloth, moistened with thin soapy water. Then wipe the CD with a dry soft cloth.
- Use of a commercially available CD-ROM drive cleaning disc may place dust on the lens. Do not use a CD-ROM drive cleaning disc.

## Maintenance of the mouse

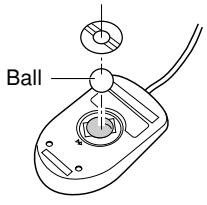
Clean the surface using a soft dry cloth. If the mouse ball does not roll freely, remove and clean the ball. Take the following steps.

**1 Remove the mouse bottom cover.**

Remove the cover on the bottom of the mouse by turning it in the direction of the arrow.

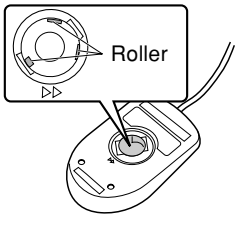
**2 Remove the ball and clean it with water.**

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




**3 Clean the inside of the mouse.**

Wipe the inside of the mouse, roller, and the bottom cover with a damp cloth.




**4 Reassemble the ball and bottom cover.**

When the ball and the inside of the mouse are dry, reassemble the ball and cover.

## Cleaning the floppy disk drive

As the floppy disk drive is used for a prolonged period, the head (the part that reads or writes data) becomes dirty. A dirty head may affect the data reading and writing operation on floppy disks. Using a separately supplied to clean the floppy drive when you encounter problem.

**1 Insert a cleaning floppy disk into the floppy disk drive.**

**2 At the command prompt (Windows 2000/NT) or MS-DOS prompt (Windows ME), run the dir or other commands that access the disk.**

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

dir a:

**3 Confirm that the Floppy disk access lamp is off, then remove the cleaning floppy disk.**

# 2 Additional Cautions

## Preventing Television or Radio Interference

This PC conforms to the VCCI standard for prevention of television and radio interference. However, the PC may cause interference if installed near a radio or television set. Such interference does not mean that the PC has a problem.
To prevent television and radio interference, note the following.

### Notes concerning the PC

- Do not use the PC with the cover open.
- Use the specified cables to connect peripheral devices (do not use other cables).
- When connecting a cable, confirm that the connector is connected securely. Tighten the screws firmly.
- Plug the PC to a different wall outlet from that a television or radio set is connected to.

### Notes concerning television and radio sets

- Do not install a television or radio set near the PC.
- Adjust the television or radio antennas to eliminate interference.
- Do not route television or radio antenna cables near the PC.
- Use coaxial antenna cable.

To determine whether the PC or peripheral devices affect television or radio reception, turn off the PC and peripheral devices.
If interference occurs, check the above items again.
If interference still occurs, contact a Fujitsu Service Center or your retailer.

## USB (Windows Me/98/95/2000 models)

USB is an acronym for Universal Serial Bus, which is a standard for common interfaces for a mouse, keyboard, printer, modem, and speakers.

### ⊙ Point

- Some USB peripheral devices require installation of the device driver.
- USB is supported by the Windows Me/98/95/2000 operating systems. In using a USB device, make sure that it is supported by the OS.
- Some USB devices affect normal Windows shutdown. In this case, disconnect the USB device before shutting down Windows.
- Even if your keyboard has a PS/2 mouse port, connect the mouse to the mouse port on the rear panel of the PC unit.

## USB keyboard (Windows 98 models)

When you enable [Use shortcut keys] on [Control Panel] – [User support] – [Filter key] – [Configuration], the shortcut key function does not work even if you keep pressing the right Shift key for more than eight seconds and therefore [Use the filter key function] cannot be configured.
Select the [Use the filter key function] check box using the mouse.

## Addition of a LAN card

- When you use this PC as a client and add a LAN card (including wireless LAN card), you cannot use it together with the standard LAN function at the same time. Select [Details] – [Other built-in devices] on BIOS Setup and set [LAN controller] to [Do not use].
- If you want to use more than one LAN card at the same time, you need a server OS such as Windows 2000 Server or Windows NT 4.0 Server.

## Wakeup On LAN

On machines with Wakeup On LAN installed as a standard function, select [Power saving] – [Automatic Wakeup] – [Wakeup On LAN] on BIOS Setup to configure the function.
When you use a security-supporting LAN card (custom-made option), select [Power saving] – [Automatic Wakeup] – [Wakeup On PCI PME] on BIOS Setup for configuration.

## Cautions on using a display

- The screen may be distorted or display horizontal lines in the following cases. This is not a failure.
  - When Windows starts up or shut down
  - When the system enters or exits the standby mode
  - When screen resolution, the number of colors, or refresh rate is changed
  - When the display mode changes from or to a full-screen display
  - When the system enters or exits the suspend mode
- The PC does not support simultaneous use of an analog and digital displays. Use either display only.

## Cautions on using a digital display

### LCD

Connect a digital display and turn it on before turning on the PC.
If the digital display is connected after turning on the PC, the display may show nothing. Also, the display may show nothing if the digital display is turned on later than the PC.

### Digital display output

The digital display output cannot be used for monitors that support resolutions higher than XGA (1024 x 768). Use a monitor supporting XGA or lower resolutions.

## Cautions on using an analog display

- On some analog LCD monitors, objects may appear over another. If this occurs, set the refresh rate to 60 Hz.
- Some analog displays are not detected automatically if used with a Windows 2000 model. This does not indicate a fault.
- When screen position is adjusted on a 640 • 480 (60 Hz) Windows screen on an analog display, the position of the BIOS Setup screen or MS-DOS screen may change. In this case, adjust the position of each screen.

## Video memory capacity display

Though Screen Properties shows a wrong video memory capacity, the PC is not faulty.

## Power-saving function of display

### Windows Me/98 models

When you use a display that does not support power-saving function, set both “System standby” and “Turn off the monitor” to “Disable” on the Power Management Properties dialog box.

### Windows 95 models

When you use a display that does not support power-saving function, open Advanced Display Properties on the Screen Properties dialog box, deselect [Power-saving display] on the Monitor tab.

### Windows 2000 models

When you use a display that does not support power-saving function, set both “System standby” and “Turn off the monitor” to “Disable” on the Power Option Properties dialog box.

### Windows NT models

When you use a display that does not support power-saving function, set [Power saving] – [Power-saving mode] – [Display power-saving] to “Disable.”

## Connecting the display

When you connect a display and found the screen display is off the center, check if the appropriate screen refresh rate is set. If the problem persists, adjust the display.

## Replacing the display

A display with different specifications (particularly an LCD) may not work on your PC. In this case, take the following steps to replace the display.

### Windows Me/98/95 models

**1 Set the resolution to 640 x 480 before replacing the display.**

**2 Set the refresh rate to [Default value of the adapter] or [Standard value for the adapter].**

**3 Shut down Windows and turn off the PC, then replace the display.**

If you have replaced the display without taking the above steps and found that the display does not work at any or particular resolution, take the following steps to reinstall the display driver.

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

**2 Set the graphic adapter to [Standard display adapter (VGA)] or [Standard VGA]. Restart the PC.**

**3 Reinstall the display driver.**

### Windows 2000 models

**1 Set the resolution to 640 x 480 and the number of colors to 256.**

**2 Set the refresh rate to 60 Hz.**

**3 Shut down Windows and turn off the PC, then replace the display.**

If you have replaced the display without taking the above steps and found that the display does not work at any or particular resolution, take the following steps to reinstall the display driver.

**1 Start Windows from [Enable the VGA mode].**

**2 Reinstall the display driver.**

### Windows NT models

**1 Turn off the PC and replace the display.**

**2 Start the PC from Windows NT Workstation Version 4.00 [VGA mode].**

**3 Set the resolution, number of colors, and refresh rate according to the display. Restart the PC.**

## Power-saving function

If the power-saving function works while the PC is playing a movie or during audio playback or recording, application programs will be unstable. If this is the case, disable the power-saving function.

## International EnergyStar Program

The Windows Me/98/2000 models of this series conform to the International EnergyStar Program.

## Mouse with a scrolling function (scrolling wheel)

Be sure to connect the scrolling mouse (PS/2) to the PC unit.
When a USB keyboard is used together with the scrolling mouse (PS/2), the mouse may not work in the Safe mode of Windows 98.
If this occurs, disconnect the USB keyboard and press the mouse buttons, then connect the USB keyboard. (The scrolling function cannot be used in the Safe mode of Windows 98.)

## Intel® processor serial number

Intel processor serial numbers are electronically readable serial numbers embedded in the Intel Pentium III processors. They are useful for security improvement, and information and asset management. Processor serial numbers can be read by using a software application. This function can be enabled or disabled on BIOS Setup. The default setting is “Disabled.”
To enable this function, set [Main] – [Processor serial number] to “Enable” on BIOS Setup.

# 3 Hardware Specifications

## PC unit specifications

| | | |
|---|---|---|
| **Product name** | | DESKPOWER 5000 |
| CPU | | Processor Pentium III |
| Secondary cache | | 256KB (internal) |
| BIOS ROM | | 512KB (Flash ROM) |
| Main memory *1 | | Standard: 64MB 168-pin SDRAM DIMM); Maximum: 512MB |
| Floppy disk | | 3.5-inch x 1 |
| Hard disk | | 20/40/60 GB*1 |
| Optical Device (Optional) | | CD-ROM/CD-R/RW |
| I/F | Display | Mini D-SUB 15-pin (analog RGB)<br>DVI-compliant 24-pin (digital display) |
| | USB | 4 ports (4-pin) Series A |
| | Keyboard | PS/2 type, Mini DIN 6-pin |
| | Mouse | PS/2 type, Mini DIN 6-pin |
| | Serial port | Asynchronous RS-232C X 1, D-SUB 9-pin |
| | Parallel port | Centronics-compliant D-SUB 25-pin |
| | LAN | Modular connector RJ45 |
| | Audio | Front: Microphone input and headphones output<br>Rear: Line out and line in |
| Expansion slot | | x 3(PCI Rev 2.2-supported)<br>PCI1 (Upper) 176 mm maximum<br>PCI2 (Middle) 176 mm maximum<br>PCI3 (Lower) 120mm maximum |
| Storage bays | | A 3.5-inch hard disk drive is installed<br>A 3.5-inch floppy disk drive is installed<br>3.5-inch front access bay<br>5.25-inch front access bay ( if no optical device selected) |

| | |
|---|---|
| Power supply/frequency | 230V AC, 50/60Hz |
| Power consumption | 132W maximum |
| Mass | Approx. 9.5kg |
| Outside dimensions (vertical placement) | 105mm x 388mm x 356mm (W x D x H) |
| Operating environment | Temperature: 10 to 35°C, Humidity: 20 to 80% (RH) |

*1: Disk capacities are based on conversion of 1 MB = 1000 2 bytes and 1 GB = 1000 3 bytes. Actual disk capacities based on conversion of 1 MB = 1024 2 bytes and 1 GB = 1024 3 bytes are displayed on Windows as smaller than those described on this manual.

**Point**

- For improvement, the specifications of products are subject to change without notice.

## LAN adapter specifications

| | |
|---|---|
| LAN controller | Built-in Intel 82801BA 10/100 Mbps Bast-T (Wake-on LAN and Alert-on LAN Supported) |
| RAM for send/receive buffer | 3 kilobytes each for sending and receiving |
| External interface | ISO8802-3 100BASE-TX/10BASE-T |
| Transfer media | Twisted-pair cable*1 (100 Mbps: Category 5, 10 Mbps: Categories 3 to 5) |
| Transfer method | Base band |
| Access method | CSMA/CD |
| Data transfer speed | 100 Mbps, 10 Mbps |
| Wiring shape | Star shape |
| Maximum segment length | 100 m |
| Maximum number of nodes per segment | Depending on the hub unit*2 |

*1: To ensure network operation at 100 Mbps, use an unshielded twisted-pair (UTP) cable in Category 5 or higher data grade. Use of Category-3 cable will cause data loss.

*2: A hub unit is a 100BASE-TX/10BASE-T concentrator.

**Point**

- The LAN installed to the PC as a standard feature adjusts automatically to the network speed. If the network speed changes due to changes in the hub unit, be sure to use cables of an appropriate data grade for that speed.

## Sound specifications

| | |
|---|---|
| Sound controller | Built-in Intel 82801BA I/O Controller Hub2 + Cirrus Logic CS4299 |
| PCM recording/playback functions | Sampling rate: 48 kHz maximum<br>16-bit Stereo<br>Simultaneous playback/recording function |

*: Supports DirectX 8.0 or later.

## Graphical specifications

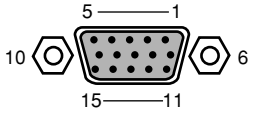
| | |
|---|---|
| Video controller | Built-in Intel 82815 Graphics Memory Controller Hub |
| Display mode | 1280 x 1024 maximum (1024 x 768 maximum for digital output) |
| Video output signal | Video: analog RGB, synchronization signal: TTL-compatible |

*: Supports DirectX 8.0 or later.

## Connector specifications

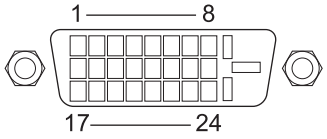
The pin assignments and signal names of each connector are as below.

**CRT connector**



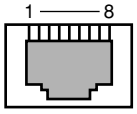

| Pin No. | Signal name | I/O | Description |
|---|---|---|---|
| 1 | RED | Output | Red output |
| 2 | GREEN | Output | Green output |
| 3 | BLUE | Output | Blue output |
| 4 | NC | — | Not connected |
| 5 to 8 | GND | — | Ground |
| 9 | +5V | — | +5V |
| 10 | GND | — | Ground |
| 11 | NC | — | Not connected |
| 12 | SDA | I/O | Data |
| 13 | HSYNC | Output | Horizontal synchronizing signal |
| 14 | VSYNC | Output | Vertical synchronizing signal |
| 15 | SCL | I/O | Data clock |

**DVI connector**



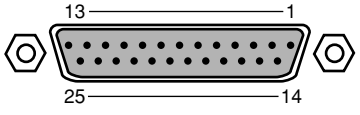

| Pin No. | Signal name | I/O | Description |
|---|---|---|---|
| 1 | TX2– | Output | Data channel 2– |
| 2 | TX2+ | Output | Data channel 2+ |
| 3 | TX2/4 Shield | — | Ground |
| 4 | TX4– | — | Not connected |
| 5 | TX4+ | — | Not connected |
| 6 | DDC Clock | I/O | DDC clock |
| 7 | DDC Data | I/O | DDC data |
| 8 | NC | — | Not connected |
| 9 | TX1– | Output | Data channel 1– |
| 10 | TX1+ | Output | Data channel 1+ |
| 11 | TX1/3 Shield | — | Ground |
| 12 | TX3– | — | Not connected |
| 13 | TX3+ | — | Not connected |
| 14 | +5V | — | +5V |
| 15 | GND | — | Ground |
| 16 | Hot Plug Detect | Input | Hot plug |
| 17 | TX0– | Output | Data channel 0– |
| 18 | TX0+ | Output | Data channel 0+ |
| 19 | TX0/5 Shield | — | Ground |
| 20 | TX5– | — | Not connected |
| 21 | TX5+ | — | Not connected |
| 22 | TXC Shield | — | Ground |
| 23 | TXC+ | Output | Data clock + |
| 24 | TXC– | Output | Data clock – |

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



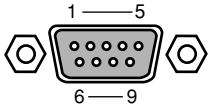

| Pin No. | Signal name | I/O | Description |
|---|---|---|---|
| 1 | TD+ | Output | Send data + |
| 2 | TD- | Output | Send data - |
| 3 | RD+ | Input | Receive data + |
| 4 | NC | — | Not connected |
| 5 | NC | — | Not connected |
| 6 | RD- | Input | Receive data - |
| 7 | NC | — | Not connected |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

**Parallel connector**



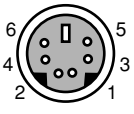

| Pin No. | Signal name | I/O | Description |
|---|---|---|---|
| 1 | STROBE | I/O | Strobe |
| 2 | DATA 0 | I/O | Data 0 |
| 3 | DATA 1 | I/O | Data 1 |
| 4 | DATA 2 | I/O | Data 2 |
| 5 | DATA 3 | I/O | Data 3 |
| 6 | DATA 4 | I/O | Data 4 |
| 7 | DATA 5 | I/O | Data 5 |
| 8 | DATA 6 | I/O | Data 6 |
| 9 | DATA 7 | I/O | Data 7 |
| 10 | ACK | Input | Acknowledgment |
| 11 | BUSY | Input | Busy |
| 12 | PE | Input | Paper empty |
| 13 | SELECT | 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**



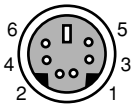

| Pin No. | Signal name | I/O | Description |
|---|---|---|---|
| 1 | CD | Input | Carrier detect |
| 2 | RD | Input | Receive data |
| 3 | TD | Output | Send data |
| 4 | DTR | Output | Data terminal ready |
| 5 | GND | — | Ground |
| 6 | DSR | Input | Data set ready |
| 7 | RTS | Output | Request to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

**Mouse connector**



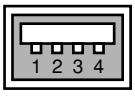

| Pin No. | Signal name | I/O | Description |
|---|---|---|---|
| 1 | DATA | I/O | Data |
| 2 | NC | — | Not connected |
| 3 | GND | — | Ground |
| 4 | VCC | — | Power |
| 5 | CLK | I/O | Clock |
| 6 | NC | — | Not connected |

**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 signal |
| 3 | +DATA | I/O | +data signal |
| 4 | GND | — | Cable/ground |

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