Preface

Notice for All Users

- Consult the operation manual (this document) for proper use of your computer.

- The product and the accessories are subject to change without prior notice.

- SHARP assumes no responsibility for results arising from use of pre-installed and third party software. Consult the software vendor for resolution of problems. (Read the service condition of the software before use.)

- SHARP assumes no responsibility for problems caused by incorrect handling, repairs, defects, battery replacement or any other cause.

Notice for Users in the USA

FCC Statement

WARNING - FCC Regulations state that any unauthorized changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipments off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the distance between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

A shielded I/F cable is required to insure compliance with FCC regulation for Class B computing equipment.

* As an ENERGY STAR® Partner, SHARP has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

Declaration of Conformity

SHARP PERSONAL COMPUTER, PC-M4000 Series
This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party: SHARP ELECTRONICS CORPORATION
Sharp Plaza, Mahwah, New Jersey 07430-2135
TEL: 1-800-BE-SHARP

This device complies with the FCC RF exposure requirements.

About the Modem

This equipment complies with Part 68 of the FCC rules and the requirements adopted by the ACTA. On the bottom of this equipment is a label that contains, among other information, a product identifier in the format US:AAAEQ##TXXXX. If requested, this number must be provided to the telephone company.

A plug and jack used to connect this equipment to the premises wiring and telephone network must comply with the applicable FCC Part 68 rules and requirements adopted by the ACTA. See installation instructions for details.

The type of Connector is USOC RJ11C

The REN is used to determine the number of devices that may be connected to a telephone line. Excessive RENs on a telephone line may result in the devices not ringing in response to an incoming call. In most but not all areas, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company. For products approved after July 23, 2001, the REN for this product is part of the product identifier that has the format US:AAAEQ##TXXXX. The digits represented by ## are the REN without a decimal point (*e.g.*, 03 is a REN of 0.3). For earlier products, the REN is separately shown on the label.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But if advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.

If trouble is experienced with this equipment, for repair or warranty information, please refer to the provided Consumer Limited Warranty sheet. If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.

Connection to party line service is subject to state tariffs. Contact the state public utility commission, public service commission or corporation commission for information.

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device, including FAX machines, to send any message unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. (The telephone number provided may not be a 900 number or any other number for which charges exceed local or long-distance transmission charges.)

To program this information, refer to the manual of the communication software.

Copyright

It is the intent of Sharp that this product be used in full compliance with the copyright laws of the United States and that prior permission be obtained from copyright owners whenever necessary.

Product Information and Customer Assistance

For Product Information and Customer Assistance:

Call: 1-800-BE-SHARP (237-4277)

Sharp Systems of America

5901 Bolsa Avenue, Huntington Beach, CA 92647

Home Page: http://www.sharpsystems.com

E-mail address: ssa-support@sharpsystems.com

Notice for Users in Canada

This class B digital apparatus complies with Canadian ICES-003.

About the Wireless LAN

Operation is subject to the following conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The installer of this radio equipment must ensure that the antenna is located or pointed such that it does not emit RF field in excess of Health Canada limits for the general population; consult Safety Code 6, obtainable from Health Canada's website www.hc-sc.gc.ca/rbp.

About the Modem

This product meets the applicable Industry Canada technical specifications. The Ringer Equivalence Number is an indication of the maximum number of devices allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the RENs of all the devices does not exceed five (REN:0.2).

This product contains IC: 4005B-ATHENS

CAUTION:

TO PREVENT ELECTRICAL SHOCK, DISCONNECT THE AC CORD AND
REMOVE THE BATTERY BEFORE SERVICING.

CAUTION:

FOR A COMPLETE ELECTRICAL DISCONNECTION, PULL OUT THE MAINS
PLUG AND THE BATTERY.

VORSICHT:

UM DIE STROMZUFUHR VOLLSTÄNDIG ZU UNTERBRECHEN, DEN
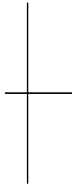NETZSTECKER HERAUSZIEHEN UND DIE BATTERIE ÈNTFERNEN.

ATTENTION:

POUR UN ARRET TOTAL DU SYSTEME, DECONNECTEZ LA PRISE DE
COURANT SECTEUR ET LA BATTERIE.

VARNING:

FÖR TOTAL ELEKTRISK URKOPPLING, KOPPLA UR KONTAKTEN OCH TA
UR BATTERIET.

PRECAUCION:

PARA UNA COMPLETA DESCONEXION ELECTRICA DESENCHUFE LA
CLAVIJA DE LA RED Y LA BATERIA.

Safety Precautions

General

- Follow all cautions and instructions marked on your computer.
- Except as described elsewhere in this manual, refer all servicing to qualified personnel. Immediately shut off your computer and seek servicing under the following conditions.
  - The power cord or plug is damaged or frayed.
  - Liquid is spilled on your computer.
 - Your computer has been dropped or the cabinet has been damaged.

Location

- Do not expose your computer to direct sunlight.
- Try to avoid dusty environments.
- Keep your computer away from any magnetic devices and TVs.
- Keep your computer away from heat sources such as radiator, heaters, stove, and other heat-generating products.
- Keep your computer away from excessive humidity or fluids such as rain, snow, water spray, juice, coffee, steam, etc.
- Keep your computer away from extremely high or low temperature.
- Do not move your computer from an extremely cold place to an extremely warm place. A temperature difference of more than 18°F (10°C) will cause condensation inside the unit, which may cause damage. (In this case, turn off your computer and leave it for about an hour to completely dry the unit.)
- Do not block or cover the slots or openings on the cabinet. They protect your computer from overheating.
- Do not place your computer on an unstable or uneven work surface.
- Care should be exercised when using on heat sensitive surfaces or your lap as the base of your computer will get hot.
- Do not use your computer on your lap or any part of your body for an extended period of time during operation or while charging to avoid injury from heat exposure. The bottom of the computer may become hot and it could cause a low temperature burn.

Usage

- Never push any objects into the cabinet openings. They may touch the dangerous voltage points or short parts that could result in fire or electrical shock.

- Do not press or place heavy objects on your computer. Strong pressure can damage the cabinet or make your computer fail.

- If your computer or the AC power cord experiences an abnormal situation such as heat generation or smoking, or produces an abnormal odor, turn off your computer, unplug the AC power cord, and remove the battery pack immediately.

- Turn off your computer before installing or removing any peripheral devices except USB devices, a PC card, or an SD card.

- Never subject your computer to sudden shocks or extreme vibration.

- Do not drop your computer or hit it with other equipment.

- Do not scratch the surface of the LCD screen.

- Before cleaning your computer, turn it off and disconnect the AC power cord.

- When carrying your computer:

  - Turn off your computer.

  - Do not subject your computer to shocks.

  - Remove external media such as a PC card from the slot.

  - Disconnect the external peripherals, cables and cords if connected.

  - Do not hold your computer by the display unit.

  Otherwise, your computer may be damaged or the stored data might be lost.
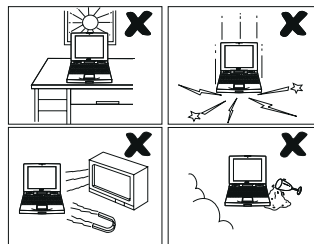
- When carrying your computer, hold it carefully not to drop it onto your feet or toes.

Battery Pack Precautions

CAUTION

DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE RECOMMENDED BY THE MANUFACTURER. DISCARD USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

Handling

- Do not put the battery pack in a fire. It could explode and cause injury.
- Do not attempt to open or alter the battery pack.
- Do not place the battery pack where it might get hotter than 140°F (60°C).
- The battery pack must be kept from metal objects such as keys. They might trigger a short circuit and consequently cause the battery pack to heat up and explode.
- Do not allow liquids to come in contact with the battery pack.
- Care must be taken not to drop the battery pack. A violent shock damages the pack.
- Do not solder anything to the battery terminals.

Charging

- Charge the battery pack only with the AC adapter and AC power cord included with your computer.

Discharging

- Use the battery pack only for powering your computer. Do not use it for any other purpose.

Storage
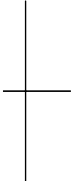
- Store the battery pack in a cool and dry place. Do not store it in a place having temperatures of above 140°F (60°C).
- Recharge the stored battery pack before using it.

AC Power Precautions

- Plug the AC power cord directly in a wall jack. Plugging too many leads into a single socket may result in fire.

- Never plug in or remove the AC power cord or AC adapter with wet hands for prevention of electric shock.

- The included AC power cord must be appropriate for the voltage used in your area. Using an inappropriate cord can cause a fire.

- Unplug the AC power cord when your computer is not used for a long period.

- Never disassemble, repair, or modify the AC adapter.

- Never modify, twist, forcibly bend or pull, or place heavy objects on top of the AC cord to avoid damaging it. Using a damaged cord can cause a fire or electric shock.

- The AC power cord must be appropriate for the voltage used in your area. Using an inappropriate cord can cause a fire.

- Never plug in the AC adapter and AC power cord with dust on the plugs. This could cause damage to the insulation that may result in fire, electric shock, and/or injury.

- When unplugging the AC adapter from a wall outlet, hold it by the plug. Do not pull it out by the cord. Damage to the cord may result in the fire and/or electric shock.

- Check the AC power cord and power connectors periodically for damage. If damage is found, change the power cord immediately.

## Modem Precautions

IMPORTANT SAFETY INSTRUCTIONS

When you use your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- Do not use this product near water (for example, near a bath tub, wash bowl, kitchen sink or laundry tub), in a wet basement, or near a swimming pool.

- During a lightning or thunder storm,

  - Never install a telephone wire.

  - Avoid using any telephones other than a cordless type. There may be a remote risk of electric shock from lightning.

  - You should turn off your computer, unplug the AC power cord and remove the modem cable from your computer.
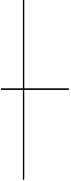
- Do not use the telephones to report a gas leak in the vicinity of the leak.
- Never use telephone jacks in wet locations unless they are specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals while they are connected to a network interface.
- Use caution when you install or modify telephone lines.
- Save these instructions.

Wireless LAN Precautions

- Disable the integrated antenna and do not communicate with the wireless LAN in specific environments where radio-susceptible equipment is nearby, on airplanes, in hospitals, for example.
- Disable the integrated antenna and do not communicate with the wireless LAN in crowded places for prevention of cardiac pacemaker interference.
- Keep the distance at least 8.7" (22 cm) between a cardiac pacemaker and an active wireless LAN antenna.
- This equipment complies with FCC radiation exposure limits set forth for uncontrolled equipment and meets the FCC radio frequency (RF) Exposure Guidelines in Supplement C to OET65. This equipment should be installed and operated with at least 20 cm and more between the radiator and person's body (excluding extremities: hands, wrists, feet and legs).
- This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.
- Never disassemble or alter the wireless LAN unit.
- Do not remove the certification label on the wireless LAN unit.

Product Conformance

The wireless LAN device pre-installed in your computer is in conformance with federal requirements. No license is required for use of this device.

Notice of Radio Interference

The wireless LAN device pre-installed in your computer operates in the 2.4GHz frequency range that is shared by Industrial, Science, Medical (ISM) devices such as microwave ovens and portable telephones. These devices may interfere with the operation of the wireless LAN device. It is recommended that these interfering devices be powered off or no activated interfering devices be nearby to ensure the proper operation of the wireless LAN device.

PC Disposal or Transfer

Warning

This product utilizes tin-lead solder, and a fluorescent lamp containing a small amount of mercury. Disposal of this product may be regulated due to environmental considerations. For disposal or recycling information, please contact your local authorities or the Electronics Industries Alliance: www.eiae.org.

Data Erasing

Before you dispose or transfer your computer, you should erase the data from hard disks.

To remove the data from the hard disk drive of your computer, you will need to:

- "Delete" the data by placing it in the Recycle Bin.
- Empty the Recycle Bin.
- Format the hard disk drives.
- Recover the system.

The above procedures do not completely delete all data from the hard disk drives. When a file is deleted, the disk location where it was stored is marked as unallocated space available for new data. It means that the old data is still there and can be recovered. It allows for malicious persons to recover the "deleted" data and misuse it. To avoid this, you must thoroughly erase all the data from the hard disks.

For permanent data deletion, it is recommended to:

- Use special software or paid services to thoroughly erase the data, or
- Hammer or strongly magnetize the hard disk to destroy the stored data.

Transferring your computer without deleting software including operating system(s) or applications on the computer may be in conflict with the software agreement(s).

Other Precautions

- Periodic back-up copies of your important data should be made to protect your data in the event of hard disk failure or loss of the data on the hard disks. Use other storage devices for the backup.

- Your computer is integrated with a magnet on the left side of the display. Be sure to keep magnetic sensitive cards and floppy disks away from the left part of your computer to prevent the data on the cards or floppy disks from being erased.

- Your computer has a sensor on the left side of the keyboard that responds to the magnet. If the magnet gets close to the sensor:

  - The backlight will be turned off.

  - The system may enter the standby or hibernation mode according to the setting. (See Chapter 2.)
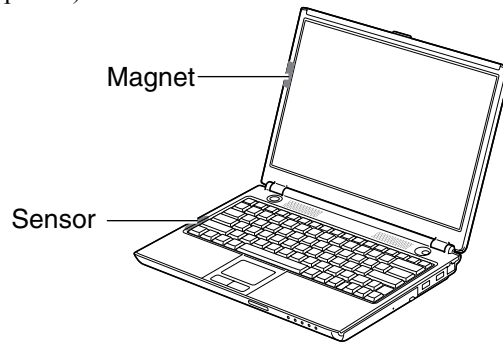
For Your Health

- Take regular breaks of ten to fifteen minutes after every hour of continuously viewing the screen to relieve your eyes.

- Adjust the brightness for comfortable viewing. (Brightness level of about 500 lux is recommended.)

- Avoid using your computer in an environment where sunlight or indoor lighting reflects off the screen.

- Position the display slightly below eye level and give a space of 15.8" (40cm) through 23.7" (60cm) between you and the display.

- Adjust the volume for comfortable sound when using a headphone. Too much volume may damage your ears.

- Do not power on or off when using a headphone. The produced noise may damage your ears.

Notice of Computer Security

The Windows operating system on this computer provides the Security Center, which manages the security features of your computer. It provides the status of the following security functions and enables you to change their settings: Firewall, Automatic Updates, and Virus Protection.

By default, the three functions are enabled in the *Security Center* to ensure the safety of the computer. If one of them or more are disabled, Windows alerts you by displaying the message "Your computer might be at risk." in the notification area located above the taskbar.
To open the *Security Center*, click *start – Control Panel – Security Center*.

Firewall

The firewall function blocks unauthorized connection to this computer through the Internet or a network.

Automatic Updates

The automatic updates function periodically detects new security programs to be installed and automatically installs them.

Virus Protection

The Norton AntiVirus software, which automatically checks the virus infection, is preinstalled in this computer. To protect the computer against new viruses and other security threats, the virus definition file of the software must be updated. The virus protection function monitors whether the definition file is latest.

When the Windows setup is finished, be sure to complete the Norton AntiVirus wizard and LiveUpdate to update the definition file. (You must establish the connection to the Internet for the update.)

After completing the Norton AntiVirus wizard and LiveUpdate;

* The *Windows Security Center* always displays as *ON* regardless of the definition file status. Since the preinstalled Norton Antivirus software manages virus check on your computer, be sure to perform the LiveUpdate.
* You can enable the LiveUpdate automatically to run and update the file if any updates are detected. (Refer to the *Virus Protection* section on page A-7.)

Notice of Security with Wireless Devices

Wireless LAN provides data transfer by means of electric waves instead of LAN cables between communicating devices such as personal computers and a wireless LAN station. Wireless LAN has an advantage of simple and ubiquitous LAN connection in the ranges where electric waves are available. Since electric waves can penetrate through walls and reach everywhere, wireless LAN without proper security settings includes some security threats and can produce the situations mentioned below.

- Eavesdropping

  Malicious third parties can intercept the transmission and monitor your mail to steal personal information such as an identification number, password, and credit card number.

- Intruding

  Malicious third parties can connect to a personal or office network without authorization and illegally perform the following:

  - Obtaining access to confidential customer records or sensitive corporate information (Information leakage)
  - Faking the original information (Spoofing)
  - Altering the original data and transmitting (Falsification)
  - Spreading computer viruses resulting in the destruction of data or systems (Destruction)

Although wireless LAN cards and wireless LAN stations (Access Points) have security measures against the threats above, no security settings may have been configured at the time of your purchase.
All security features must be configured according to reference manuals of the wireless LAN devices, which results in reducing vulnerability to the attacks described above.
Use the wireless devices with a clear understanding that wireless LAN includes vulnerabilities that could allow attackers to simply bypass security features. Security measures are important for all users to understand for the safe use of wireless LAN. SHARP encourages all users to configure the security settings with their own judgment and responsibility.

About This Manual

Notice

Information in this manual is subject to change without notice and does not represent a commitment on the part of SHARP Corporation and its sales subsidiaries.

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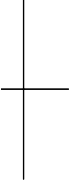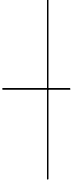
SHARP strongly recommends that separate permanent written records be kept of all important data. Data may be lost or altered in virtually any electronic memory product under certain circumstances. Therefore, SHARP assumes no responsibility for data lost or otherwise rendered unusable whether as a result of improper use, repairs, defects, battery replacement, use after the specified battery life has expired, or any other causes.

SHARP assumes no responsibility directly or indirectly, for financial losses or claims from third persons resulting from the use of this product and any of its functions, such as stolen credit card numbers, the loss of or alteration of stored data, etc.

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Recording Important Information

For future reference, please record the following information in the spaces provided below.

Model Number:

Serial Number:

Date of purchase:

Dealer's Name:

Place of purchase:

Password:

The serial number is printed on a sticker located on the bottom of the computer.

Manual Conventions

This manual uses a set of style conventions described below.

Notes and Cautions are italicized with icons:

A note icon informs you of a special technique or information that may help you perform a task or better understand a process.

A caution icon alerts you to something that may cause a problem or damage to hardware, software or data.

Key Labels on the Keyboard, when referred to in the instructions, are shown in boldface:

Press **Enter** to continue.

When two or more keys are separated by a plus (+) sign, press and hold down the first key (or first two keys), and then, press the last key:

Run *Task Manager* by pressing **Ctrl**+**Alt**+**Delete**.

Sample Entries are shown in lower cases of different typeface.

`c:\windows\system`

Words/Texts on Screen, such as window titles or possible parameters, are italicized:

Double-click this icon to display the *Power Options Properties* dialog box.
Set the item to *Enabled*.

Screens reproduced in this manual may differ slightly from the screens you see on your computer.

Section Titles in other parts of this manual are italicized:

Refer to *Connecting to AC Power Source* section of Chapter 1.

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Battery and Power Management

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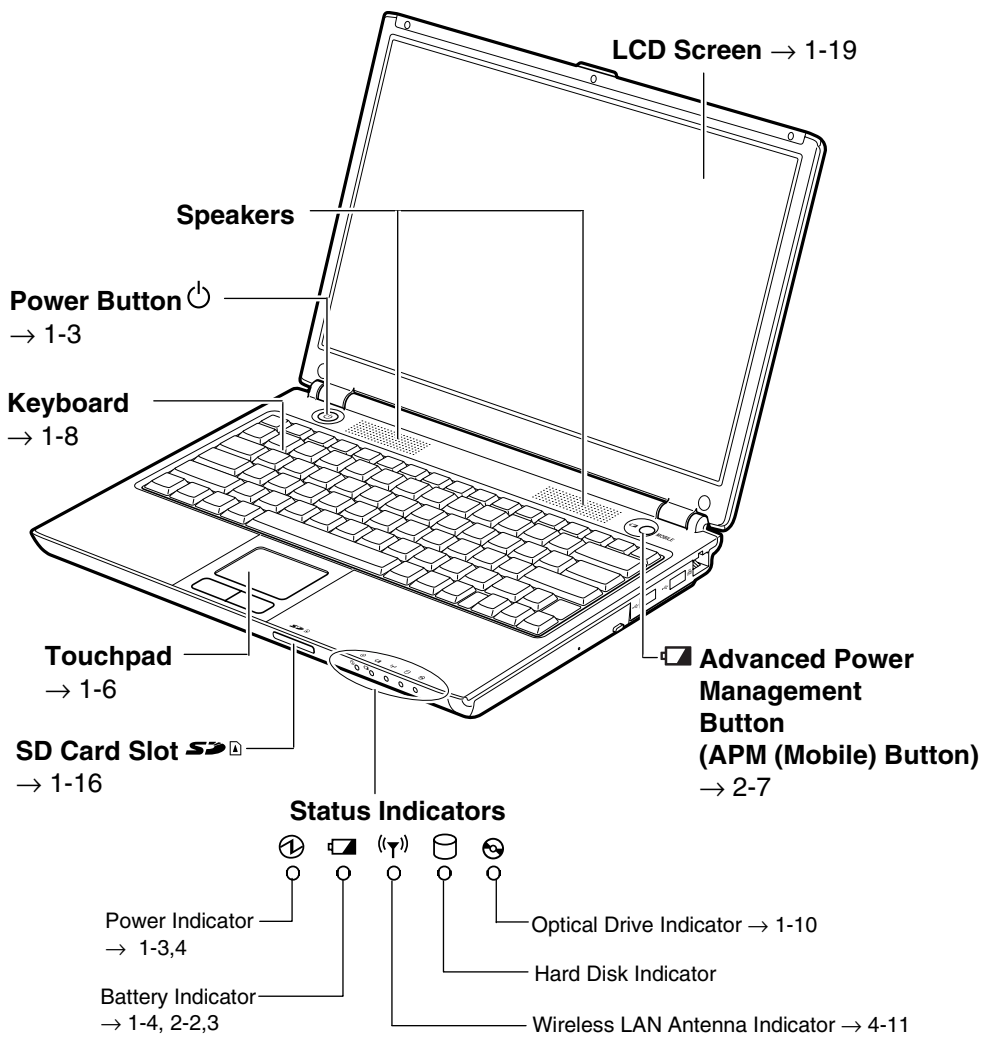
Communication Functions

Setup Utility
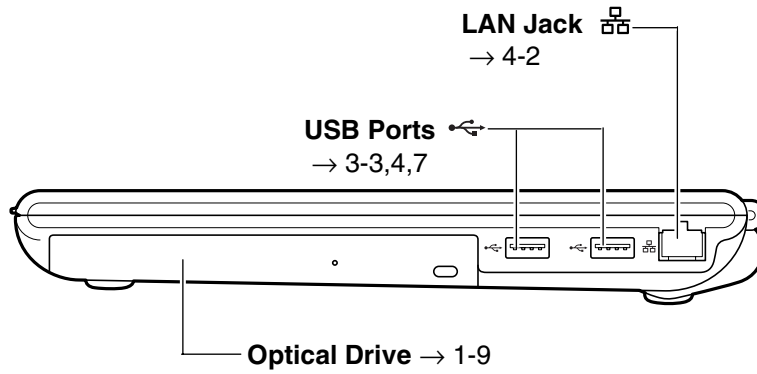
Appendixes

Troubleshooting

Overview of Computer

Each number after an arrow indicates the page referring to the part. Actual appearance of your computer may be slightly different depending on the model.
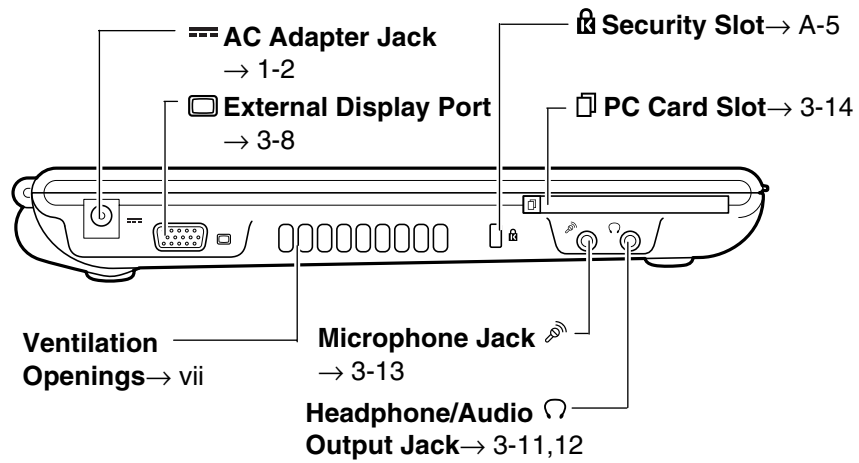
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Never turn off the computer when the hard disk indicator or the optical drive indicator is on. This may damage the data on the hard disk.

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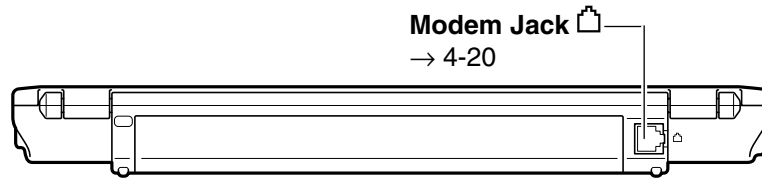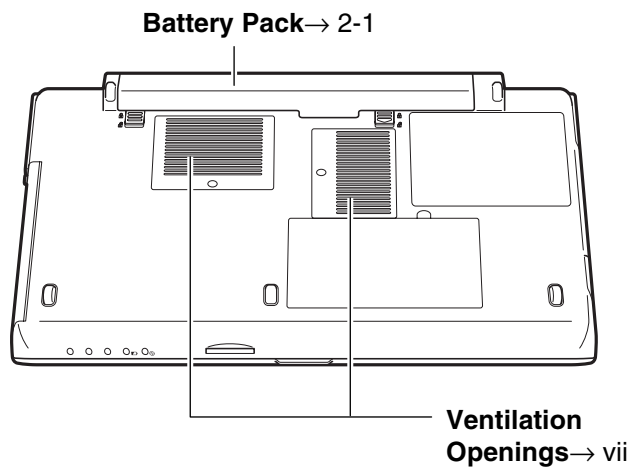
CHAPTER 1

1

Basic Operations

This chapter describes the basic operations of the computer.

> ☑ ***Properties Dialog Box on Windows***
> *In this manual, you will often see the expression "XXX Properties dialog box." A dialog box is a window containing text boxes, check boxes, buttons, etc, with which you can send commands to Windows or other application programs. To open the properties dialog boxes, click* start - Control Panel. *The Control Panel has two types of views: Category view and Classic view. The Category view allows you to choose the category that may be related to what you want to do, then, choose the task by clicking it. The Classic view gives you the icons representing their components or features. Double-click one of the icons to open their dialog boxes or windows. Some of the dialog boxes you will use often are:*
> - *Display*
> - *Phone and Modem Options*
> - *Mouse*
> - *Power Options*
> - *System*
>
> *Clicking* Switch to XXX View *string appearing at the upper left of the* Control Panel *window allows you to toggle between the two views.*

Connecting to AC Power Source

> ⚠ - *Always use the AC adapter (EA-MW1V) and the AC power cord included with the computer or optional ones. Using others may damage the computer.*
> - *Always hold the AC power cord by the plug when removing it from the wall outlet. Never pull on the cord.*
> - *Never plug in and out the AC power cord with wet hands.*

Basic Operations

1. Plug the AC power cord into the AC adapter.
2. Plug the AC adapter cable into the AC adapter jack on the computer.
3. Plug the AC power cord into a wall outlet.

1

AC Adapter Cable

②

AC Adapter Jack

AC Power Cord

①

AC Adapter

③

To Wall
Outlet
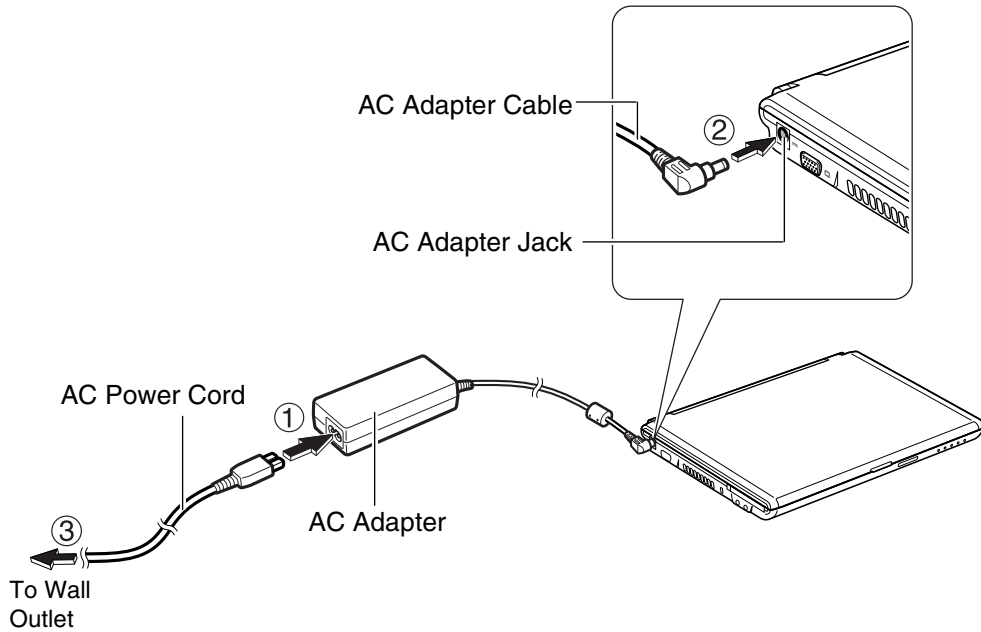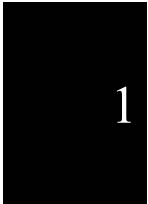
4. Steady the base cabinet of the computer with one hand and hold the jutted part with your thumb or finger of the other hand, and then raise the cover.

Jutted Part
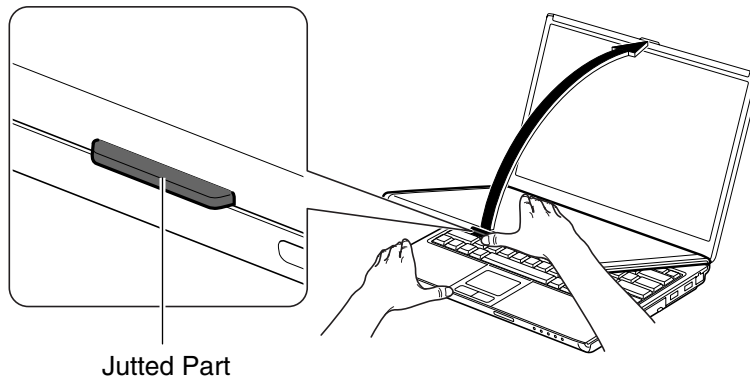
5.   Press the power button to turn on the computer.

Power Button
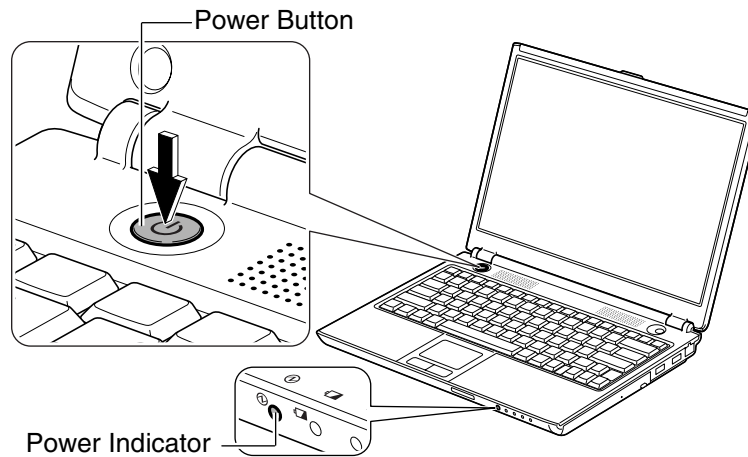
Power Indicator

> *When you turn on the computer, the power indicator (⏻) lights green, the computer goes through a self test to detect any problems, and the Windows setup process starts.*

> *Do not touch or operate the keyboard and touchpad until Windows completely activates unless you are prompted to do so. Otherwise, Windows may not start properly.*

Turning Off Your Computer

When you've finished using the computer, turn it off by following these steps.

1.   Click *start – Turn Off Computer.*

2.   In the *Turn off computer* dialog box, click *Turn Off.*

Close the cover to keep the screen and keyboard clean and protected.

> - *When* Shut down *is assigned to the power button in the* Power Options Properties *dialog box, pressing the power button also turns off the computer. You can change the assignment in the* Advanced *tab of the* Power Options Properties *dialog box.*
> - *If you have not saved a file, a dialog box will appear asking whether you want to save it.*
> - *If the message "Other people are logged on to the computer…," click* No *and finish the task(s) performed by other users.*

> ⚠ • *Do not turn off, reset or move the computer while the hard disk indicator, the optical drive indicator or the indicator on an optional external floppy disk drive unit is lit. Doing so may damage or even wipe out the data.*
> • *Before turning it back on, wait at least ten seconds after the computer is turned off. Turning the power off and on in rapid succession can damage the computer's electrical circuitry.*

Choosing Power Source

You can use the computer with one of the following power sources:

- AC power from a wall outlet
  Use AC power whenever possible; rely on the battery only when AC power is not available.

- Rechargeable battery
  The computer is equipped with a standard battery pack. See Chapter 2 for the battery information.

About Power Indicators

The following indicators show the power status of the computer.

Indicator	Light		Meaning
Power ⏻	On (green)		Operating
	Blinking (green)		In System Standby
	Off		Powered off or in System Hibernate
Battery 🔋	Connected to AC Power Source	On (green)	Fully charged
		On (orange)	Being charged
		Blinking (orange)	In abnormal state (See page 2-2.)
	Powered by Battery	Off	Has power
		Blinking (red)	Almost completely discharged (The warning beep sounds.)

The battery indicator is always off when the computer is turned off and not connected to AC power source.

> ✅ • *When the battery is hot, the battery indicator may turn off and stay off until the battery becomes cool.*
> • *For more information on System standby/hibernate, see Chapter 2.*

Using the AC Adapter

When connected to a wall outlet, the AC adapter provides power for operation and charges the battery. The AC input voltage can range from 100 to 240 volts so that you can use the computer with the appropriate plug adapter.

The AC power cord included with the computer is appropriate for the voltage used in the area in which you purchased the computer. If you attempt to connect the computer to a wall outlet other than in this area, check the voltage of the outlet and use an AC power cord appropriate for the outlet. Consult the local service staff if you are not sure.

1

Using the Touchpad

The computer is equipped with an integrated touchpad pointing device. Using the touchpad, you can move the pointer, select an item from a menu, and perform other tasks in the same way you would with a mouse.

1
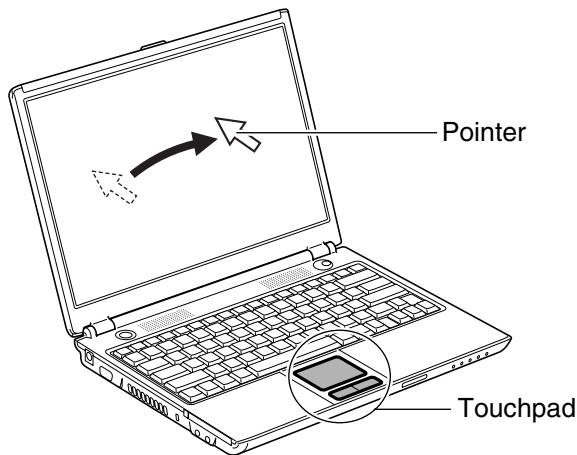
Pointer

Touchpad

> ⚠ • *Do not hit or scratch the surface of the touchpad with pointed objects (such as a ballpoint pen). It may damage the surface of the touchpad.*
> • *Do not operate the touchpad with a moist finger. This may cause the touchpad to operate incorrectly and to be damaged.*

Using the Touchpad

Take a moment to become familiar with how the touchpad works.

Place Your Fingertip

Place your left or right hand next to the touchpad, resting your wrist naturally in a relaxed manner. Place your thumb or finger on the touchpad.

Move Your Fingertip

The rectangular pad of the touchpad is used to move the pointer around the display. As you slide your fingertip across the pad, the pointer on the screen moves in the same direction across the screen. The touchpad is very sensitive, so you do not have to exert much pressure on the pad. The touchpad will respond to a light touch from your fingertip.

Click, Double-click, and Right-click

To click or double-click, you can use the left button just like that of a mouse. Instead of clicking the left button, you can also just tap gently anywhere on the rectangular pad. For right-clicking, you must use the right button.

> *If the interval between clicks is too long, the double-clicking will not work.*

1
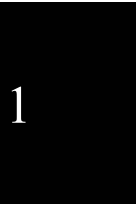
Drag and Drop

You can move items by using the "drag and drop" method described below:

1. Position the pointer over the item you wish to move.

2. Press the left button; do not release it.

3. Move the pointer while holding the left button. The item moves together with the pointer.

4. Release the button when the item reaches its destination.

Or you can tap the pad twice and hold it instead of pressing the left button in the step 2.

Scroll

You can scroll through information in a list or in a document by using the touchpad. To view information vertically, place your finger on the most right part of the touchpad and slide your finger up and down. To view horizontally, place your finger on the bottom part of the touchpad and slide your finger to the left or the right. This procedure works only in limited applications.

Changing the Configuration

In the *Mouse Properties* dialog box, you can change the configuration of the touchpad, such as swapping left and right buttons, changing the pointer size, etc. Double-click the ▪▪ icon on the taskbar.

Using the Keyboard

The computer, equipped with the Windows Enhanced Keyboard, provides all the functionality of a full-sized desktop keyboard.

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Special Keys

| ⊞ | Windows Key | Opens the Windows start menu. This key works in the same way as the *start* button on the screen. |

| 🗐 | Application Key | Opens short-cut menus for the specific items. This key works in the same way as the right mouse button. |

System Function Keys

The keyboard contains the function keys labeled **F1** through **F12** for special actions. Use them in conjunction with the **Fn** key.

> ✓ *When the **Fn** key and one of the function keys (except **F11** and **F12** keys) are pressed together, an indicating icon(s) related to the selected function will appear on the screen.*

Fn + F1 (📶)*   Turns the wireless LAN antenna on and off.

Fn + F3 (▼◁))   Decreases the audio volume.

Fn + F4 (▲◁))   Increases the audio volume.

Fn + F5 (▢)   Rotates display mode among LCD only, an external monitor only, and both (when an external monitor is connected).

Fn + F6 (▼☼)*   Decreases the LCD screen brightness.

Fn + F7 (▲☼)*   Increases the LCD screen brightness.

Fn + F10 (▨)*   Mutes the sound. To resume, press them again.

Fn + F11 (▱)   Turns the LCD screen and an external monitor screen (when it is connected) on and off.

Fn + F12 (❚❚)   Forces the computer to enter a standby mode or a hibernation mode, or to power off.

(See the *Power Saving* section on page 2-7 for more information.)

* The APM button provides the same functions. If you press the APM button, the settings of the currently selected APM button mode will be applied. (For more information, refer to the *Using the Advanced Power Management Button* section on page 2-9.)

1

Using the Optical Drive

The computer is equipped with an optical drive allowing you to read from DVD and CD, and write onto CD-R/RW disks. Refer to the table below for the appropriate disks.

⚠️ **CAUTION FOR LASER**
Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

> CLASS 1 LASER PRODUCT
> LASER KLASSE 1

✓ *Some disks are not available for the computer in reading or writing.*

("–" not supported by disks, "No" not supported by the drive.)

Disk Type	CD-R/RW & DVD-ROM Drive		
	Reading	**Writing**	**Rewriting**
CD-ROM[*1] Audio CD	**Yes**	**–**	**–**
CD-R	**Yes**	**Yes**	**–**
CD-RW High Speed CD-RW Ultra Speed CD-RW	**Yes**	**Yes**	**Yes**
DVD-ROM DVD-VIDEO	**Yes**	**–**	**–**
DVD-R single layer	**Yes**[*2]	**No**	**–**
DVD-R double layer	**No**	**No**	**–**
DVD-RW	**Yes**[*2]	**No**	**No**
DVD+R single layer	**Yes**[*2]	**No**	**–**
DVD+R double layer	**Yes**[*2]	**No**	**–**
DVD+RW	**Yes**[*2]	**No**	**No**
DVD-RAM[*3]	**Yes**	**No**	**No**

$*^1$ Including Video CD and Photo CD.
$*^2$ To play a disk that is created by a commercial DVD authoring software or recorded by a commercial DVD recorder, it must have been finalized by the authoring software or recorder.
$*^3$ The computer supports non-cartridge disks or Type2/Type4 removable cartridge disks. Before inserting a removable disk, remove the cartridge from the disk.

> ☑ • *The Sharp Systems website at http://www.sharpsystems.com may provide a list of recommended media.*
> • *To play back the created disk, be sure to use a compatible computer or device.*

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Handling Disks

- Do not write on either side of the disk, particularly the non-label side. Data is read from/written onto the non-label side. Do not mark this surface.

- Keep your disks away from direct sunlight, heat and excessive moisture.

- Always hold the disks by the edges. Fingerprints, dirt or water on the disks can cause noise or mistracking. If a disk is dirty or does not play properly, clean it with a soft, dry cloth, wiping straight out from the center, along the radius.

Inserting Disks

1. Make sure the optical drive indicator light is not on; then press the eject button. The drive tray will pop out.

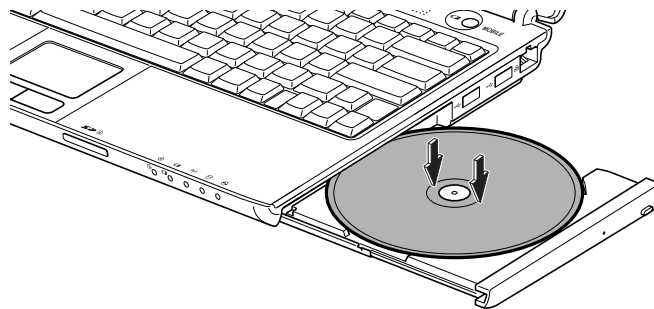Eject Button

Optical Drive

Optical Drive Indicator
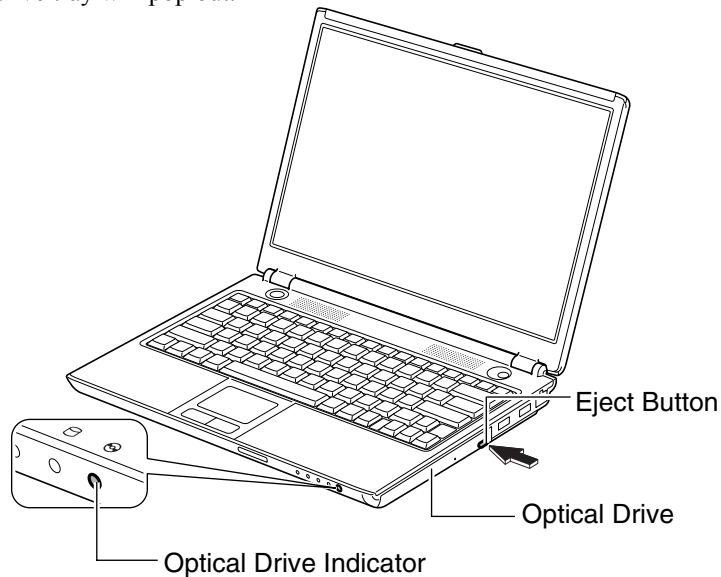
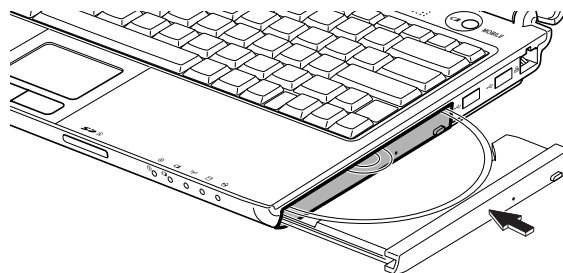2. Gently pull out the tray.
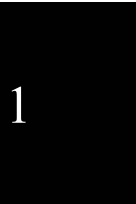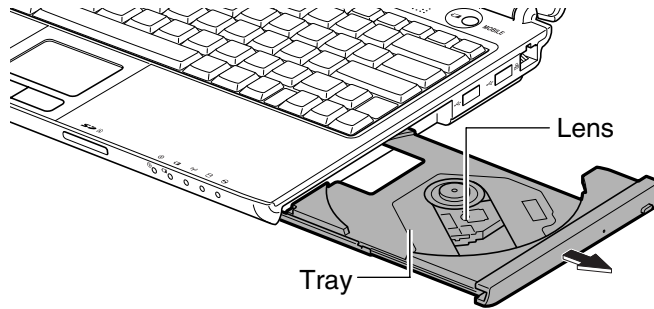
Lens

Tray

Do not touch the lens in the tray. If the lens becomes dirty, the drive may malfunction.

3. Place your disk with label face up onto the tray and slightly press the center of the disk until it locks into place.
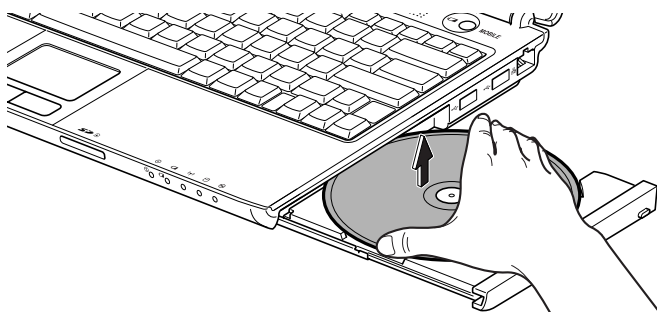
4. Gently push the tray back into the computer.

Removing Disks

1. Make sure the optical drive indicator is not lit and press the eject button. The optical drive tray will pop out.

> ⚠ *Make sure the optical drive indicator is not lit before pressing the eject button.*

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2. Gently pull out the tray.
3. Holding its edge, remove the disk from the tray.

4. Gently push the tray back into the computer.

> ⚠ *Do not leave the tray pulled out.*

Writing Data to the Disk

You can use CD-R or CD-RW disks to write data. A CD-RW is an erasable disk onto which you can write data and from which you can erase data. A CD-R is a non-erasable disk onto which you can write data only once. If free space remains, you can add data until the disk is full.

> ✓ • *Before writing to disks, follow the instructions below.*
>   • *Connect the AC adapter. If the battery is fully discharged, the writing process will stop and fail.*
>   • *Set the APM button mode to* Max Power *and set the* CPU performance *level to 100%. (See the* Using the Advanced Power Management Button *section on page 2-9.)*
>   • *Disable system standby and system hibernate. (See the* Power Saving

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section on page 2-7.)

- *Close all unnecessary and automatic start-up applications.*
- *Disable the screen saver. (Refer to the* Wallpaper and Screen Saver *section on page 1-20.)*

- *Some disks restrict the writing or rewriting speed to ensure recording quality.*
- *When you copy data using the* Backup *utility of the preinstalled application, Drag'n Drop CD+DVD4, the backup destination should be the same disk type as the backup source.*
- *After creating an audio CD, you cannot add data into it even if it is not full.*

To write data, use the preinstalled application, Drag'n Drop CD+DVD4.
To run the Drag'n Drop CD+DVD4, click *start – All Programs – Drag'n Drop CD+DVD4 – Drag'n Drop CD+DVD4.*

- *See the online help of the Drag'n Drop CD+DVD4 for details and other features.*
- *You can also write data by the Windows CD writing feature. Refer to the Windows* Help and Support *for more information.*

Watching DVD Videos

You can watch DVD videos using the application called InterVideo WinDVD. See online help of the InterVideo WinDVD for more details.
To run the application, click *start – All Programs – InterVideo WinDVD – InterVideo WinDVD.*

- *Before watching DVD videos, follow the instructions below.*
  - *Connect the AC adapter. If the battery is discharged, the operation will stop.*
  - *Close all unnecessary and automatic start-up applications.*
  - *Disable the screen saver. (Refer to the* Wallpaper and Screen Saver *section on page 1-20.)*
  - *Set the output monitor either of the LCD and an external monitor. Outputting to more than one monitor may display the images improperly.*
- *For details on InterVideo WinDVD, refer to its* Help*. To open the* Help*, run InterVideo WinDVD, right-click somewhere in the* InterVideo WinDVD *window, and then, click* Help….

Changing the Region Code

A DVD video has a region code which prevents playback of the disk in certain regions. The region code is labeled on the top of the disk. When shipped from the factory, your optical drive is set to a region code applicable to your area.

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Your optical drive region code can be changed. Code change is limited. Once the limit is reached, it cannot be changed any more.
To confirm the limit,
1. *Click* start – My Computer – View system information.
2. *In the* System Properties *dialog box, select the* Hardware *tab and click the* Device Manager *button.*
3. *In the* Device Manager *dialog box, double-click the* DVD/CD-ROM drives *string and* MATSHITA xxxxxx. *(xxxxxx is your optical drive name.)*
4. *Select the* DVD Region *tab.*
   The limit number is shown in the Changing remaining *field.*
5. *Click the* Cancel *button.*
6. *Close the dialog boxes.*

Make sure to log on the computer as a member of the Computer administrators group. Otherwise you cannot change the region code.

Available region codes are:

Region Codes	Area
1	U.S.A, Canada
2	West Europe, Japan, South Africa
3	South East Asia
4	Australia, Spanish America
5	Russia, East Europe, Africa
6	China

To change the region code:

1. Insert the DVD video that you want to play back into the optical drive.

   If the region code of the DVD video is different from that of your drive, the *Confirm Region* dialog box appears.

2. The region code currently selected is marked in the left box. The region code of your DVD video is marked in the right box. If you want to change the drive code and play the DVD video, click *OK*.

> *On some DVD videos, plural region codes are selectable in the right box of the* Confirm Region *dialog box. Carefully choose an appropriate one.*

> *If the* Confirm Region *dialog box does not appear:*
> 1. *Follow the steps 1 to 4 in the instructions for confirming the limit of region code change on the previous page.*
> 2. *Choose one of the listed distribution areas of the DVD video, then, confirm the region code shown in the* New Region *field is correct and click* OK.
> 3. *Read the message on the screen, then, click* OK.

Using Parental Control

The InterVideo WinDVD offers the parental control feature to prevent your children from watching an inappropriate DVD.

1. Run the *InterVideo WinDVD*.
2. Right-click somewhere in the *InterVideo WinDVD 5* window and click *Setup…*. The *Setup* dialog box will appear.
3. In the *Preferences* tab, click the *Set Password* button in the *Parental Playback Control* section.
4. Type a password twice and click *OK*.
5. Click *OK* in the confirmation window.
6. Click the *Set Rating* button and enter the password.
7. Click *OK*.
8. Select a control level and click *Set*.
9. Click *OK*. See online help of the *WinDVD* for more details.

Using the SD Card Slot

The computer is equipped with an SD card slot. You can insert/eject an SD memory card without turning off the computer. Before inserting an SD memory card into the slot, refer to its manual.

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- *You can use an SD memory card and a miniSD card (requiring a commercial adapter) on this computer. Note that copyright protection technology and high-speed transfer cannot be utilized.*
- *The computer does not support SD I/O cards.*
- *The SD card slot does not support multimedia cards.*
- *Be sure to use an SD memory card formatted by the device with which you intend to use the card.*
- *During data transfer, refrain from performing other tasks. Otherwise, the transfer speed becomes low as the CPU is utilized by other programs.*
- *Make sure to log on the computer as a member of the Computer administrators group. Otherwise you cannot eject the card safely and correctly.*

Inserting the SD Memory Card

You can insert an SD memory card without turning off the computer.

1. When writing data onto an SD memory card, confirm it is not write-protected. If it is write-protected, unlock the write-protected switch of the SD memory card.

- *You can read data from an SD memory card even if it is write-protected.*
- *For details on the write-protected switch, refer to the instructions of the SD memory card.*

2. Hold an SD memory card with the SD logo face up and the notched part toward the right and then insert it into the SD card slot.

SD Card Slot

SD Logo
Face UP

Notched Part

1
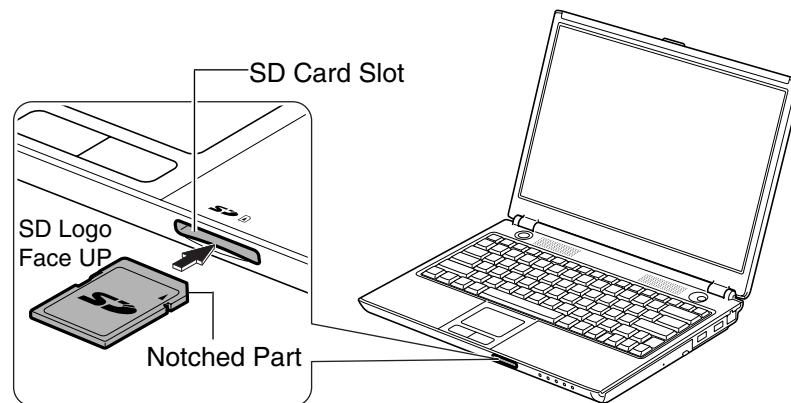
> ⚠ *Make sure to insert the card with the SD logo face up and the notched part toward the right. Otherwise, the SD memory card and the computer may be damaged.*

If the dialog box asking you *What do you want Windows to do?* appears, select the task you want.

Ejecting the SD Memory Card

> ⚠ *Be sure to follow the instructions below when ejecting the SD memory card. Otherwise, the system may not work properly.*

1. Click the *Safely Remove Hardware* icon ( ) on the taskbar. If you cannot find the icon, click to show all kinds of icons.
2. Click *Safely remove Secure Digital Storage Device – Drive (X:)*; then, the *Safe To Remove Hardware* dialog appears.

3. Push the card into the computer and release it. The card will pop out slightly.

SD Memory Card

1
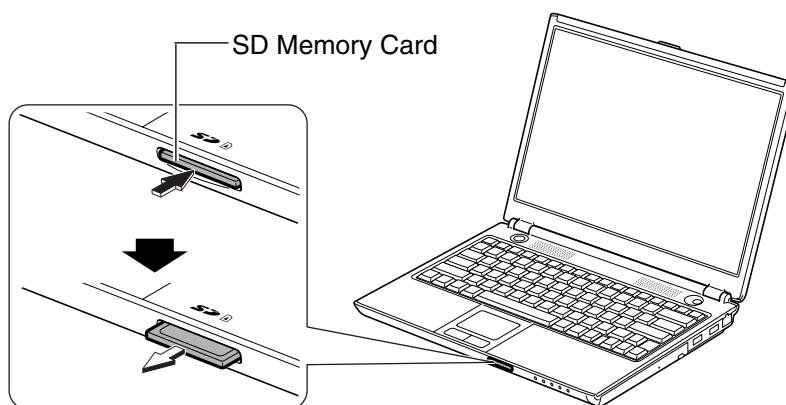
4. Gently pull out the card.

Controlling the Volume

You can adjust the output volume of the computer with the following volume controls that interact with each other.

- *If you mute the sound, a warning beep for critical or low battery power will not sound.*
- *If you press the APM button after setting the audio volume by the function keys or on Windows, the* Audio *setting of the currently selected APM button mode will be applied. (For more information, refer to the* Using the Advanced Power Management Button *section on page 2-9.)*

With Keyboard

Press **Fn+F3** (▼◀) keys to decrease the output volume.
Press **Fn+F4** (▲◀) keys to increase the output volume.
Press **Fn+F10** (✕) keys to mute the sound. To resume, press them again.

On Windows

1. Click *start - Control Panel*.

2. Click *Sounds, Speech, and Audio Devices*; then, *Sounds and Audio Devices*. If Classic view is selected, double-click the *Sounds and Audio Devices* icon.

3. In the *Sounds and Audio Devices Properties* dialog box, slide the lever to control the output volume.

4. Click *OK* and close the dialog box; then the *Control Panel* window.

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✓ *You can also easily adjust the volume in the window that will open when clicking the speaker symbol on the taskbar. When the symbol is not on the taskbar, check the box of* Place volume icon on the taskbar *in the step 3.*

Adjusting the Display

You can adjust the brightness, resolution, and number of colors on the internal LCD display for more comfortable viewing.

Changing Brightness of Display

Press **Fn+F6** (▼☼) keys to decrease the brightness of the internal LCD display.
Press **Fn+F7** (▲☼) keys to increase the brightness of the internal LCD display.

✓ *If you press the APM button after changing the brightness by the function keys or on Windows, the* Brightness *setting of the currently selected APM button mode will be applied. (For more information, refer to the* Using the Advanced Power Management Button *section on page 2-9.)*

Changing Resolution and Number of Colors

When shipped, the computer is set to the default resolution and color. The default resolution is 1280 x 800 at 16M colors. To change the resolution and the number of colors, follow the instructions below:

1. In the *Display Properties* dialog box, select the *Settings* tab.

2. Select the number of colors in the *Color quality* field, and select the resolution in the *Screen resolution* field.

3. Click *OK*; then, *Yes*.

Available Resolutions and Colors

Resolution [*1]   : 800 x 600, 1024 x 768, 1280 x 768, 1280 x 800
Number of Colors [*2]: 64K, 16M

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[*1] When displaying on your external display only, you can set any of the available resolutions for the external monitor. Note that some of the resolutions may not allow the monitor to work properly. Please check your monitor's specifications or with your monitor manufacturer.
[*2] The internal LCD screen supports 16,770,000 (16M) colors by using a Dithering algorithm.

- *You cannot switch to display resolutions and number of colors that are not available.*
- *In the* Color quality, Medium (16 bit) *means 65,536 (64K) colors, and* High (32 bit) *means 16,770,000 (16M) colors*.

Wallpaper and Screen Saver

Changing Wallpaper
1.   In the *Display Properties* dialog box, select the *Desktop* tab.
2.   Select desired wallpaper in the *Background* pull-down menu.
3.   Click *OK*.

Setting Screen Saver
1.   In the *Display Properties* dialog box, select the *Screen Saver* tab.
2.   Select a desired screen saver in the *Screen saver* pull-down menu and set time when screen saver starts.
3.   Click *OK*.

To disable the screen saver, select [None] *from the* Screen saver *pull-down menu.*

Sharing Your Computer

If you are sharing the computer with your colleagues or family members, set a user account for each person. Every user can choose their favorite desktop setting, web site lists, or make their own *My Documents* folder etc., and save them to their user accounts. When you turn on the computer, select your user account.

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Setting a New User Account

1.   Click *start* - *Control Panel*.

2.   Click *User Accounts*. If the *Classic view* is selected, double-click the *User Accounts* icon.

3.   Click the *Create a new account* string.

4.   Type a name for the new account and click *Next*.

5.   Select the account type; then, click *Create Account*. If you create a *Limited* account, your account has limits for using the computer. See the *Help and Support Center* in the *start* menu for more details.

6.   Close the *User Accounts* dialog box; then, the *Control Panel* window.

If more than one user account is set to the computer, you must select which user account you will log in when you turn on the computer.

Log Off Your Computer

"Log off" is useful because you do not have to turn off the computer when you finish your task and pass the computer to another person. There are two ways to log off the computer, *Switch User* or *Log Off*.

If you select *Switch User*, you can pass the computer to another person without closing your current applications. For example, if you are viewing a Web site, and your colleague needs to open a program on the computer, use *Switch User*. You can then view the same Web site by just switching users after your colleague finishes with the computer.

If you select *Log Off*, the system will close all your session and you need to save your files before logging off the computer.

1.   Click *start* - *Log Off*.

2.   Select *Switch User* or *Log Off*. If you select *Log Off*, the dialog box asking you to save the data may appear.

3. Select a new account to start Windows again.

☑ *If you cannot see the* Switch User *in the* Log Off Windows *dialog box, click the* Change the way users log on or off *string in the* User Accounts *dialog box, and check* Use Fast User Switching *and click* Apply Options*.

Setting the Password to User Account

You can set a password to each user account to avoid unauthorized use of the computer. Once you set the password, you need to enter it when you log on to its account. You cannot start the computer with the user account if its password is not correct, so unnecessary password setting can cause trouble in starting the system.

Setting the Password

1. Click *start* - *Control Panel*.
2. Click *User Accounts*. If the *Classic view* is selected, double-click the *User Accounts* icon.
3. Select the account you want to set a password to. You will only have this option if you log onto the computer as a member of the Computer administrators group. If you log on the computer with a limited user account, go to the next step. (You cannot set a password to another user account.)
4. Select the *Create a password* string.

☑ • *If the password has been already set, the* Create a password *will not appear.*
• *Only the members of the Computer administrators group can set a password to another user account.*

5. Type a new password.
6. Type the new password again to confirm it.
7. If necessary, type a password hints word to remember the password you set.
8. Click *Create Password*.
9. If you are asked weather you want to make your files and folders private, click one of the *Yes, Make Private* and *No* buttons.
10. Close the *User Accounts* dialog box; then, the *Control Panel* window.

Changing the Password

1. Follow the steps 1-2 in the *Setting Password* section on the previous page.

2. Select the account you want to change, if you log on to the computer as a member of the Computer administrators group. If you log on the computer with a limited account, go to the next step. (You cannot change the password of another user account.)

3. Select the *Change the password* string or *Change my password* string.

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> • *If the password has not been set yet, the* Change the password *or* Change my password *will not appear.*
> • *Only the members of the Computer administrators group can change the password of another user account.*

4. Type the current password. If you are changing another user's password, skip this step.

5. Type a new password.

6. Type the new password again to confirm it.

7. If necessary, type a password hints word to remember the password you set.

8. Click *Change Password*.

9. Close the *User Accounts* dialog box; then, the *Control Panel* window.

Deleting the Password

1. Follow the steps 1-2 in the *Setting Password* section on the previous page.

2. Select the account you want to delete its password, if you log on to the computer as a member of the Computer administrators group. If you log on the computer with a limited account, go to the next step. (You cannot delete the password of another user account.)

3. Select the *Remove the password* string or *Remove my password* string.

4. Type your password and click *Remove Password*. If you want to delete the password of another user account, just click *Remove Password*.

5. Close the *User Accounts* dialog box; then, the *Control Panel* window.
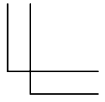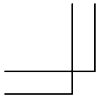
__Basic Operations__
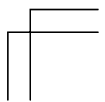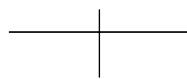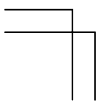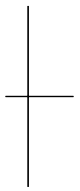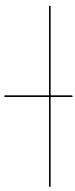
CHAPTER 2

Battery and Power Management

This chapter explains how to manage the computer's power effectively and how to use the battery pack.

2

> ☑ *In this section, you often see the expression "*Power Options Properties *dialog box." To open the dialog box:*
> 1. *Click* start – Control Panel.
> 2. *Click* Performance and Maintenance – Power Options *in the Category view or double-click the* Power Options *icon in the Classic view.*

The Battery Pack

When not connected to an external power source, the computer operates with the rechargeable battery pack. The duration of the battery life may be longer if the computer's power management is active. See the *Power Saving* section on page 2-7 for details on the power management.

To keep the battery life longer,

- Condition the battery pack if the actual remaining power in the battery is less than what the Windows *Power Meter* indicates. (See the *Conditioning the Battery Pack* section on page 2-4.)
- Turn off the computer while you are not using it.

> ☑ • *The duration of the battery depends on the computer usage. Using applications, which heavily use external peripherals, will result in shorter battery life.*
> • *When the battery has not been charged, the computer may not operate properly. Connect the AC power source to charge the battery.*

Charging the Battery Pack

Connect the AC adapter to the computer and leave it until the battery is fully charged.

2

To Wall
Outlet
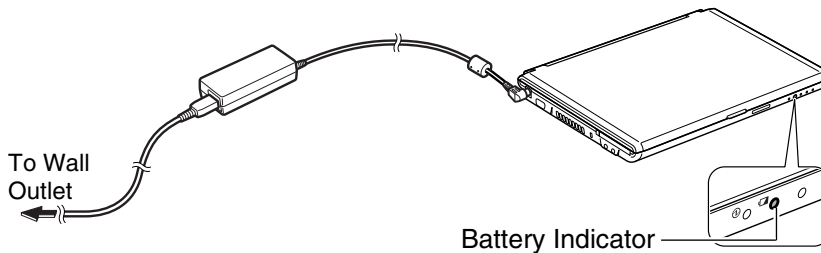
Battery Indicator

When the battery indicator (▭◢) lights orange, the battery is being charged. When the light turns green, the battery has been fully charged.

> ✔
>
> - *Charging time may vary depending on the status of the computer.*
> - *The battery indicator may turn off even while the battery is being charged. This is because the battery pack is hot and the charging stops temporarily. When the battery becomes cool, the charging will restart and the battery indicator will turn on again.*
> - *If the battery indicator blinks orange, the battery pack may not be installed correctly. In this case, turn off the computer, remove the AC adapter and the battery pack; then re-install the battery pack and connect the AC adapter again. If the battery indicator still blinks orange, consult your local dealer.*

Checking Battery Level

On Windows

You can check the battery level by placing the pointer on the battery icon (▯ : powered on battery) or the AC plug icon (🔌 : powered on AC power and charging the battery pack) on the taskbar, or double-clicking one of these icons (▯ , 🔌 , or 🔌 : powered on AC power) to open the *Power Meter* dialog box. If the battery is fully charged, remaining capacity level will not appear even if you point to the icon.

If you cannot see the battery or AC plug icon, follow these instructions:

1. In the *Power Options Properties* dialog box, select the *Advanced* tab.
2. Check the box of *Always show icon on the taskbar* and click *OK*.
3. Close the *Control Panel* window.

- *The remaining operating time depends on the amount of the power the computer is consuming. If you are using the audio system, PC card slot, SD card slot, hard disk drive, or peripheral devices with the computer, it will consume more battery power.*
- *The* Power Meter *may not indicate correctly for a short period after the computer has resumed from a standby or hibernation mode.*
- *If the actual remaining power in your battery is less than what the* Power Meter *indicates, you should condition the battery pack as per the procedure on the* Conditioning the Battery Pack *section on page 2-4.*

Low Battery Indication

On Windows, you can set the battery level for sounding an alarm and letting the computer go into System standby, System hibernate or shut down.

When the battery power level becomes significantly low, the battery indicator (▭◢) blinks red and the warning beep sounds. Save your data and turn off the computer, or connect the AC power source immediately. Otherwise, the computer will be shut down and any unsaved data may be lost.

Battery Indicator
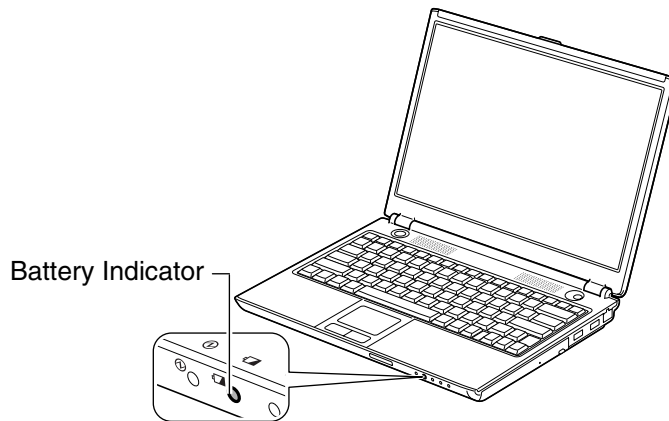
1. In the *Power Options Properties* dialog box, select the *Alarms* tab.

2. Set the battery level at which the alarms are activated. The recommended values of the *Critical battery alarm* are 5% or more and the *Low battery alarm* more than the value of the *Critical battery alarm*.

3. Set the *Alarm Action…* to the appropriate settings.

4. Click *OK* twice.

5. Close the *Control Panel* window.

Conditioning the Battery Pack

Condition the battery pack when the actual remaining power in your battery is less than what the Windows *Power Meter* indicates, or you may need to buy a new battery pack.

1. Connect the AC adapter and turn on the computer.

2. When the message *Press F2 for System Utilities* appears, press the **F2** to open the Setup Utility.

3. Press **Fn+F7** (▲☼) several times to maximize the LCD screen brightness.

4. Select the *Battery Menu* by using an arrow key (→) and then, press **Enter**.

5. Confirm that *Yes* is selected and then, press **Enter**.

   The conditioning process will start. The process includes charging, discharging, powering off the computer, and recharging in this order.

   The amount of time before the conditioning process is complete will be approximately 12.5 hours (max.).

   Do not turn on the computer until the battery is fully charged and the battery indicator turns to green.

   Repeated charging and discharging or long-term storage of the battery pack will cause battery deterioration. In this case, replace the battery pack with a new one.

Changing the Battery Pack

Repeated use of the battery pack gradually decreases its capacity and its deterioration rate depends on the operating environment. If the battery life becomes extremely short even after conditioning the battery pack, you should buy a new battery pack. Consult your local dealer for a new battery pack.

When you replace the battery pack with a new one:

1. Turn off the computer and disconnect the AC adapter from the computer.
2. Close the display cover and turn over the computer on a stable surface.
3. Slide the battery lever to the unlocked position ( ).
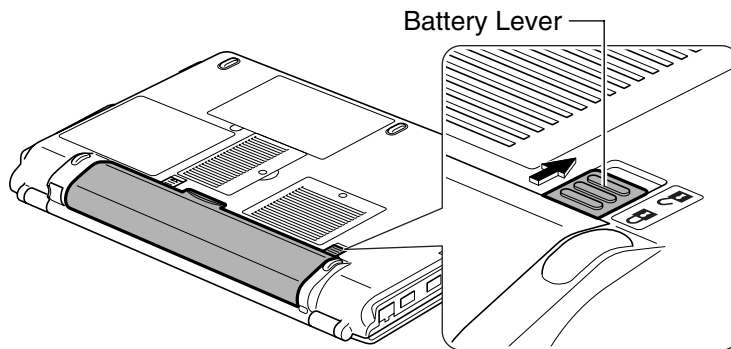
Battery Lever

4. Slide the spring release battery lever to the unlocked position ( ) and hold it; then hold the jutted part with your thumb or fingers and pull the battery pack out of the socket.
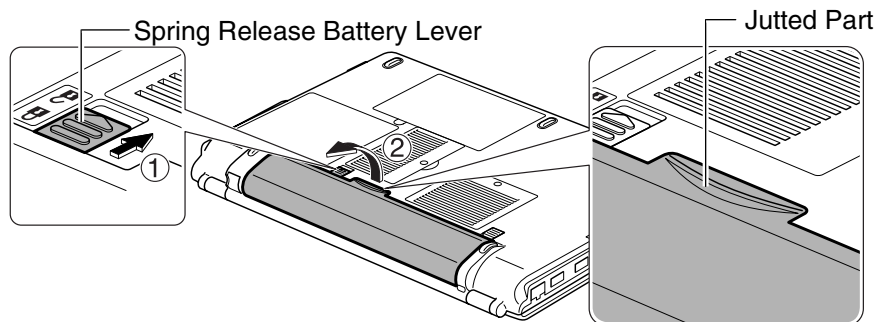
Spring Release Battery Lever   Jutted Part

5. Align the projecting parts of the new battery pack to the notched parts of the computer.

Projecting Parts
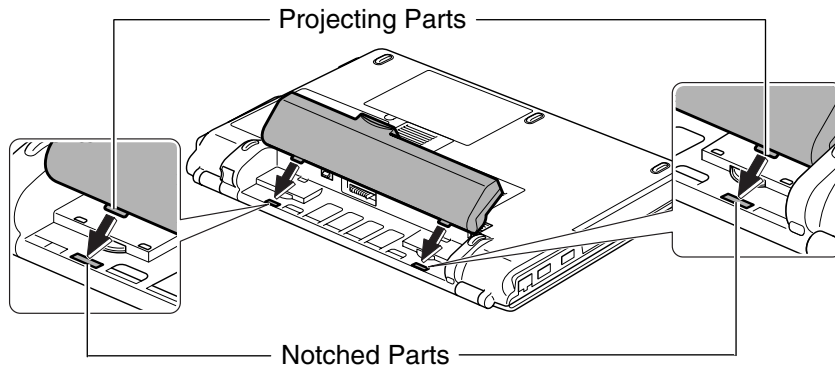
Notched Parts

> ⚠ *Be sure to completely match the projecting parts of the battery pack with the notched parts of the computer. Otherwise, the battery pack may drop out of the socket, and damage itself or cause injury.*

6. Keeping the projecting parts and notched parts matched, gently push down on the battery pack until you hear it click into place.
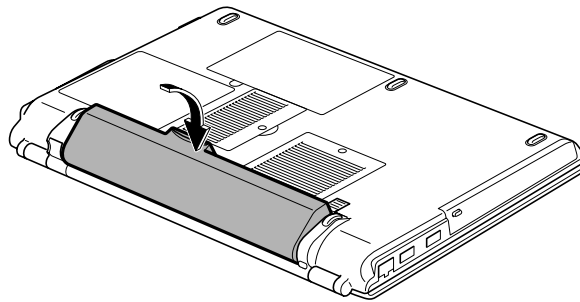
7. Confim that the spring release battery lever is in the locked position (🔒) and then slide the battery lever back to the locked position (🔒).

Spring Release Battery Lever   Battery Lever
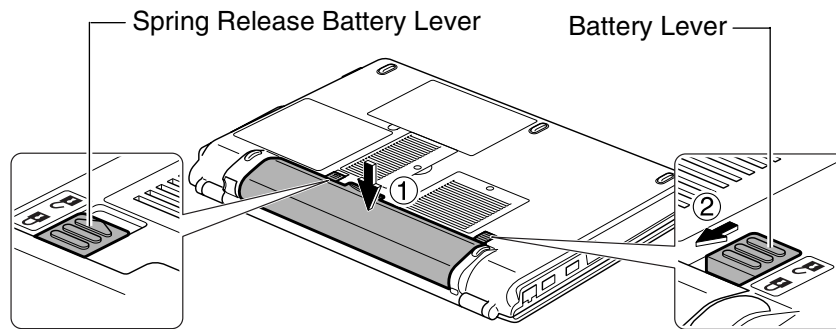
Power Saving

The computer is equipped with Advanced Power Management software that is activated by the APM button. This software can change the power management setting levels on up to eleven subsystems on the computer, such as CPU performance, screen brightness, and time to enter system standby or hibernation mode. The APM button provides three modes that you can use depending on operation and activity: Max Power mode, Mobile mode, and Max Mobile mode. You can also separately change the values on each mode to your favorite one.
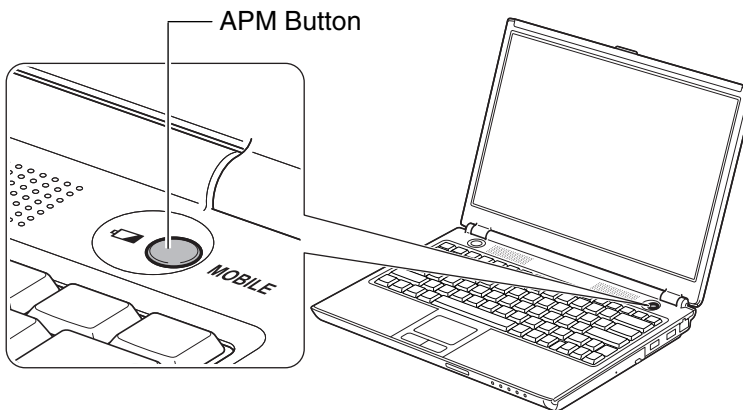
APM Button

MOBILE

About the APM Button Modes

- Max Power mode: Provides maximum system and subsystem performance.
- Mobile mode: Provides controlled CPU performance and screen brightness.
- Max Mobile mode: Provides more controlled CPU performance and most components are in low power mode.

> *These three modes are defined here according to their default values. (Refer to the table in the* Setting Items and Default Values *section on page 2-9 for the default values.)*

About the APM Button Setting Items

The APM button provides the following items of which the setting levels are changeable: CPU performance, screen brightness, wireless LAN, optical drive, time before turning off monitor, time before turning off hard disk, time before entering system standby mode, time before entering system hibernation mode, wallpaper, LCD refresh rate, and audio sound.

> *Refer to the table of the* Available APM Button Setting Levels *on page 2-12 for details of the setting items and their available setting levels.*

About System Standby/Hibernate

System standby/hibernate is a very useful power management tool. For example, after the computer has entered a system standby mode, you can restart the computer more quickly when compared to restarting after a normal shutdown operation. When the computer resumes from a system standby or hibernation mode, the system restores the exact last state of the computer. In Windows, the *System standby* and *System hibernate* are defined as following:

- *System standby* stores the current condition of the computer in RAM and stops power supply to all but a few essential components. In a standby mode, the power indicator blinks green. To resume from the standby, press any key.
- *System hibernate* saves the current condition of the computer in part of the hard disk and turns off the computer. In a hibernation mode, the power indicator is off. To resume from the hibernation, press the power button.

> - *Before the computer enters a standby or hibernation mode, finish communications, printing, and playing music or video.*
> - *Do not operate the computer or peripheral devices and connect or disconnect peripheral devices, while the computer is entering or*

> *resuming from a standby or hibernation mode.*
> - *Save your data before the computer enters a standby mode. If the power supply to the computer is stopped, the RAM contents will be lost.*

✓ *Select your user account if Windows requires when the computer resumes from the standby or hibernation mode.*

Using the Advanced Power Management Button

The APM button provides three modes that you can select depending on operation and activity: Max Power mode, Mobile mode, and Max Mobile mode.

Setting Items and Default Values

The following are the APM button setting items and their default values.

Modes \ Items	Max Power	Mobile	Max Mobile
CPU performance	100%	75%	50%
Brightness	100%	69%	38%
Wireless LAN	ON	Do nothing	Do nothing
Optical drive	Do nothing	Do nothing	Do nothing
Turn off monitor	After 20 mins	After 10 mins	After 3 mins
Turn off harddisk	After 20 mins	After 10 mins	After 3 mins
System standby	After 25 mins	After 15 mins	After 10 mins
System hibernate	After 1 hour	After 20 mins	After 15 mins
Wallpaper	Your background	Your background	Your background
LCD refresh rate	60Hz (high quality)	60Hz (high quality)	40Hz (power saving)
Audio	Do nothing	Do nothing	Do nothing

✓ - *You can change the value separately depending on operation and activity.*
- *For more information on the setting items and available setting levels, refer to the* Changing the APM Button Setting Levels *section on page 2-11.*
- *The item with "Do nothing" selected cannot be turned on or off by pressing the APM button. To turn them on or off using the APM button,* ON *or* OFF *(or* Mute*) must be selected. (Refer to the* Changing the APM Button Setting Levels *section on page 2-11.)*

- *Controlled CPU performance levels (that are other than 100%) may cause some applications such as DVD playback to perform improperly. Change the CPU performance level back to 100%.*
- *When you press the APM button, the current setting levels of the selected mode is applied. In this case, the values you have applied in the* Power Options Properties *dialog box or by the keyboard are replaced with those of the selected mode of the APM button.*
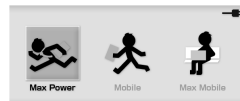
2

Changing the APM Button Mode

Pressing the APM button will display which APM button mode is operational. Additional presses of the button will change the mode.

1. Press the APM button.
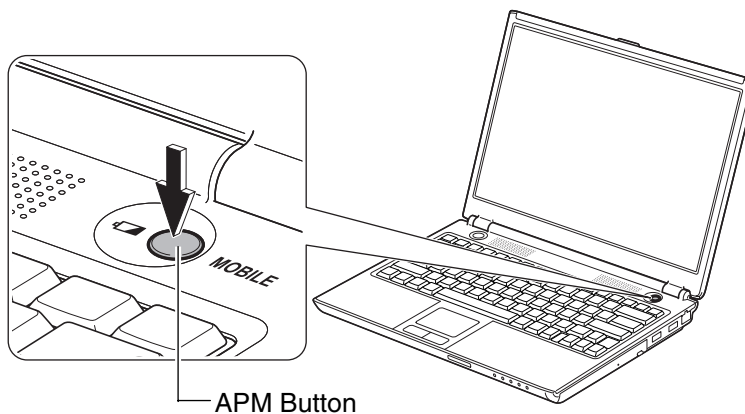
APM Button

One of the following windows will appear and the highlighted mode will be operational.
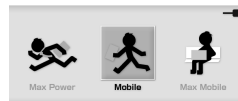
Max Power mode *Mobile mode* *Max Mobile mode*
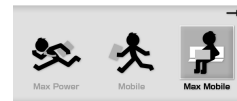
2. While one of the windows is on the screen, press the APM button to change to the desired mode.

Pressing the APM button rotates the mode in this order.

Max Power ⟶ Mobile ⟶ Max Mobile
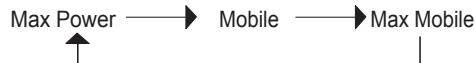
Changing the APM Button Setting Levels

The setting levels of each mode can be separately determined from the provided lists. To change the values, follow theses steps.

1. Click *start – All Programs – SHARP Advanced Power Management Utility – Advanced Power Management Button Settings*.

- *The APM button settings window will appear.*
- *Clicking the* SHARP Advanced Power Management Utility *icon ( ) on the taskbar also allows the APM button settings window to appear.*

2. Click on the value to be changed.

The selected field will have a pull-down button ( ).

3. Click the pull-down button ( ) to display the list and then select your desired value.

- *You can change the setting level to any values in the provided list of any mode.*
- *The selected value will be applied immediately after it is selected. If the value is not applied, press the APM button. To immediately apply the change, the* SHARP APM Button *must be selected in the* Power schemes *field in the* Power Options Properties *dialog box in the Control Panel.*

4. Click the close button ( ) to close the settings window.

Available APM Button Setting Levels

CPU performance	Four options are provided: *100%, 75%, 50%,* and *25%.* [*1]	
Brightness	Thirteen options are provided: *100%, 92%, 85%, 76%, 69%, 62%, 54%, 46%, 38%, 31%, 23%, 15%,* and *8%.* [*2]	
Wireless LAN	ON	Enables the wireless LAN antenna.
	OFF	Disables the wireless LAN antenna.
	Do nothing	Makes no changes to the setting.
		When *Do nothing* is selected, use the **Fn+F1** ((ᵧ)) keys to enable or disable the wireless LAN antenna. (See page 4-11.)
Optical drive	ON	Turns on the optical drive.
	OFF	Turns off the optical drive.
	Do nothing	Makes no changes to the setting.
		When *Do nothing* is selected, follow the steps on page 2-15 or 2-16 to turn on or off the drive.
Turn off monitor	Specifies an elapsed time before the monitor turns off. [*3] Sixteen options are provided: *1 min, 2 mins, 3 mins, 5 mins, 10 mins, 15 mins, 20 mins, 25 mins, 30 mins, 45 mins, 1 hour, 2 hours, 3 hours, 4 hours, 5 hours,* and *Never.*	
Turn off hard disk	Specifies an elapsed time before the hard disks turn off. [*4] Fourteen options are provided: *3 mins, 5 mins, 10 mins, 15 mins, 20 mins, 25 mins, 30 mins, 45 mins, 1 hour, 2 hours, 3 hours, 4 hours, 5 hours,* and *Never.*	
System standby	Specifies an elapsed time before the computer enters system standby mode. [*3] Sixteen options are provided: *1 min, 2 mins, 3 mins, 5 mins, 10 mins, 15 mins, 20 mins, 25 mins, 30 mins, 45 mins, 1 hour, 2 hours, 3 hours, 4 hours, 5 hours,* and *Never.*	
System hibernate	Specifies an elapsed time before the computer enters system hibernation mode. [*3] Sixteen options are provided: *1 min, 2 mins, 3 mins, 5 mins, 10 mins, 15 mins, 20 mins, 25 mins, 30 mins, 45 mins, 1 hour, 2 hours, 3 hours, 4 hours, 5 hours,* and *Never.*	
Wallpaper	Your background	Sets the wallpaper selected in the *Background* field in the *Display Properties* dialog box.
	White [*5]	Sets the white wallpaper to save power.
LCD refresh rate	Adjusts the LCD refresh rate between 60 Hz and 40 Hz. [*6]	
Audio	ON	Turns on the output sounds.
	Mute [*7]	Turns off the output sounds.
	Do nothing	Makes no changes to the setting.
		Use the **Fn+F10** ([✕]) keys to turn on or off the sounds. (See page 1-18.)

[*1] Smaller value saves more power. Before writing, playing animation, or communicating, select 100% to maximize the CPU performance.

[*2] Smaller value saves more power.

[*3] The process will start after the specified time with no activity.

[*4] The process will start after the specified time with no access to the hard disks.

[*5] The *White* wallpaper covers the screen with white. Increasing the amount of white area on the screen will reduce power consumption.

[*6] 60 Hz of the LCD refresh rate provides highest quality pictures and 40 Hz saves power.

[*7] If *Mute* is selected, a warning beep for critical or low battery power will not sound.

2

- *Care should be taken when pressing the APM button while using the optical drive or wireless LAN. Applying the mode where the* Optical drive *or* Wireless LAN *is set to* OFF *will stop the current reading/writing process or communication.*
- *To reset to the default setting values of the APM button, click* start – All Programs – SHARP Advanced Power Management Utility – Reset to default.

Disabling System Standby/Hibernate

Before writing data onto a CD or communicating through the built-in modem, prevent the computer from entering a system standby or system hibernation mode so that the writing process or transferring will not be disturbed.

1. Click *start – Control Panel*.

2. Click *Performance and Maintenance – Power Options*. If the *Classic* view is selected, double-click the *Power Options* icon.

3. In the *Power Schemes* tab, select *Always On* in the *Power schemes* pull-down menu.

4. Confirm the *System standby* and *System hibernates* fields have *Never*.

5. Click *OK*.

6. Close the window.

Pressing the APM button after disabling system standby/hibernate through the above process will apply the System standby *or* System hibernate *settings of the currently selected APM button mode.*

Entering a Standby/Hibernation Mode Immediately

You can allow the computer to enter a system standby or system hibernation mode in each of the following cases:

- You select *Stand By* or *Hibernate* (which will replace *Stand By* if you press **Shift** key) in the *Turn off computer* dialog box. To open the dialog box, click *start – Turn Off Computer*.

- The screen cover is closed.
  The above functions after you perform the following:

1. In the *Power Options Properties* dialog box, select the *Advanced* tab.

2. Select *Hibernate* or *Stand by* in the *When I close the lid of my portable computer* field.

3. Click *OK*.

4. Close the *Control Panel* window.

- You press the power button.
  The above functions after you perform the following:

1. In the *Power Options Properties* dialog box, select the *Advanced* tab.

2. Select *Hibernate* or *Stand by* in the *When I press the power button on my computer* field.

3. Click *OK*.

4. Close the *Control Panel* window.

- You press the **Fn+F12** (▮▮).
  The above functions after you perform the following:

1. In the *Power Options Properties* dialog box, select the *Advanced* tab.

2. Select *Hibernate* or *Stand by* in the *When I press the sleep button on my computer* field.

3. Click *OK*.

4. Close the *Control Panel* window.

☑ *If* Ask me what to do *is selected in the step 2 of* You press the power button *or* You press **Fn+F12** *(* ⏸ *), the Turn off computer dialog box will appear when you press the power button or the **Fn+F12** (* ⏸ *) key combination. You can select System standby or System hibernate at that timing.*

● The battery level is low.
The above functions after you set the alarm in Windows. See the *Low Battery Indication* section on page 2-3.

2

Powering Off the Optical Drive

Powering off the optical drive also reduces power consumption. When you do not use the optical drive, disconnect the connection between the optical drive and the computer to turn off the drive.

☑ ● *While the optical drive is powered off, the* DVD/CD-RW Drive (E:) *icon does not appear in the* My Computer *window.*
● *Depending on what the* Optical drive *is set to in each of the APM button modes -* ON *or* OFF- *will determine what the setting is when the APM button is pressed.*

Disconnecting the Optical Drive

1. Click the *Safely Remove Hardware* icon ( ) on the taskbar. If you cannot find the icon, click to show all kinds of icons.
2. Click on the *Safely remove MATSHITA xxxxxx*. (xxxxxx is your optical drive name.)

☑ ● *The optical drive will be disconnected from the computer and powered off.*
● *The optical drive bay cannot be removed from the computer.*

Reconnecting the Optical Drive

To power on the optical drive and resume the connection, use one of the following instructions. It will take some time for the optical drive to be recognized by the computer after you complete one of the following:

- Press the **Fn** key and hold it, then, press the **F2** key.

- Press the eject button of the optical drive.
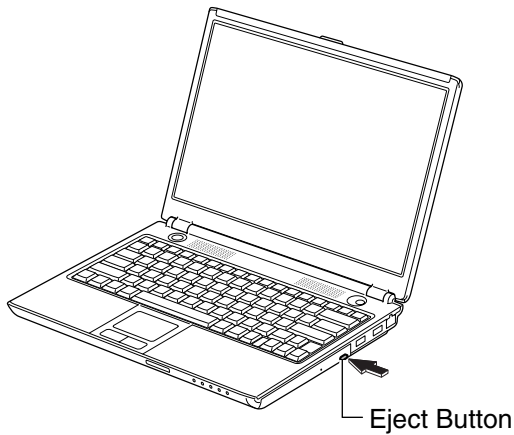
— Eject Button

The eject button does not work for reconnecting immediately after you turn on the computer. Wait until Windows has booted up, and then, press the eject button.

CHAPTER 3

Peripherals

This chapter describes how to use peripheral devices with the computer. You can connect an optional floppy disk drive unit, a printer, an external monitor, a PC card, or other devices to the computer. To ensure the proper use, be sure to read the instructions for each peripheral device before connecting it to the computer.

Peripheral Device Ports

3

The computer has connection ports for the peripheral devices shown on the next page. For the connection, refer to the section explaining each device, or contact your dealer.

- *Be sure to turn off the computer and the peripheral devices before connecting them (except when connecting/inserting a USB device or a PC card).*
- *Confirm the peripheral devices you will connect are Windows XP compatible.*
- *When you connect some of the devices, you may have to turn on the computer before powering on the devices.*
- *Some devices require that you install the appropriate drivers before use.*

Connection Ports for Peripherals

3

Ω Headphone
/Audio Output Jack

✎ Microphone Jack

▭ External Display Port
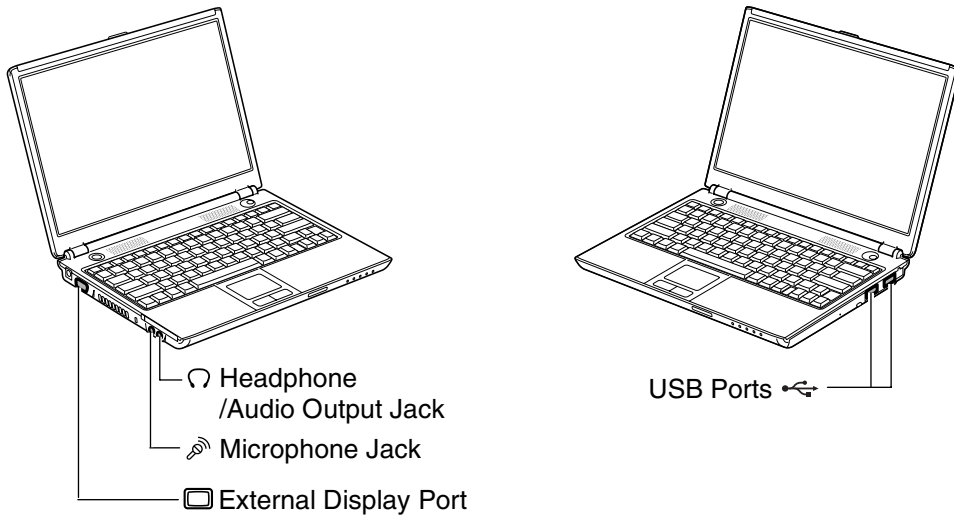
USB Ports ⟳

Port Design

Port name	Port Design
USB Port	
External Display Port	
Headphone / Audio Output Jack	
Microphone Jack	

USB Devices

The computer has an interface called Universal Serial Bus (USB). Its two USB ports support USB1.1 and USB2.0. With a USB connection, you can connect/disconnect peripherals without turning off the computer. Generally, when you connect a device to the computer, the necessary driver will be installed automatically. See also the manuals of peripheral devices supporting USB.

> ⚠️ *When connecting the cable to one of the USB ports, be sure to keep the USB mark (⟜) side up.*

> ✓ *When a new device is correctly connected to the computer, the appropriate driver is automatically installed. If the driver is not installed correctly, you will see a message on the screen. In this case, install the driver by following the instructions on the screen.*

3

USB Port

With the USB Mark facing UP
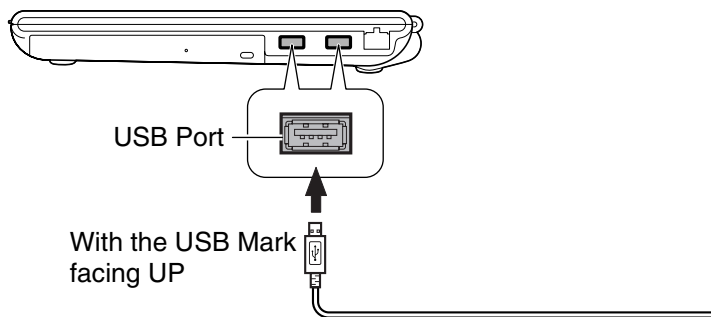
To remove the USB devices, you may need to perform the following instructions.

1. Click the *Safely Remove Hardware* icon (🔌) on the taskbar. If you cannot find the icon, click ◀ to show all kinds of icons. If the icon does not appear, go to the step 3.

2. Click *Safely remove xxxx* (xxxx is the name of your USB device); then, the *Safe To Remove Hardware* dialog appears.

3. Remove the device from the computer.

Optional External Floppy Disk Drive Unit

You can use high-density (2HD) 1.44MB or double-density (2DD) 720KB floppy disks with the optional SHARP external floppy disk drive unit (CE-FD05).

- *1.44MB (2HD) disks are appropriate for the drive unit.*
- *There are some restrictions in using 720KB (2DD) disks. Refer to the* Trouble with Floppy Disks *section on page T-5.*

Connecting Optional External Floppy Disk Drive Unit

- *Do not place the floppy disk drive unit on its side or upside down.*
- *Do not press on the floppy disk drive unit. It may damage the drive or cause its malfunction.*
- *Do not place the AC adapter on the floppy disk drive unit. It may cause the drive to malfunction.*

Connect the floppy disk drive unit cable to one of the USB ports on the computer.

When connecting the cable, be sure to let the USB mark (⟵⟶) face up.

USB Port

With the USB Mark facing UP

Optional External Floppy Disk Drive Unit
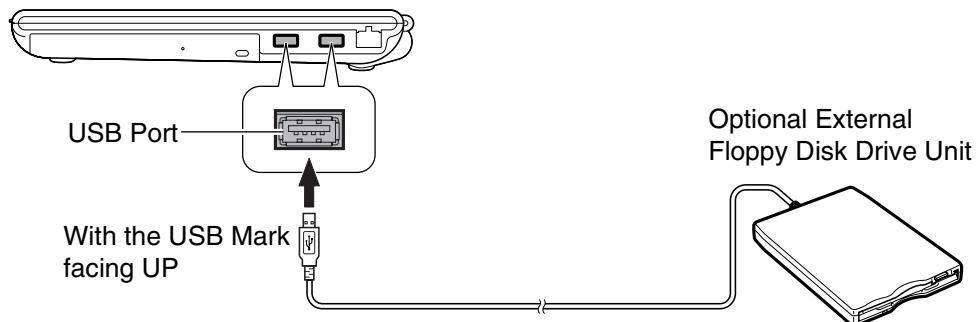
Handling the Floppy Disk

- Do not open the shutter and touch the disk inside; otherwise, you will not be able to read or write data to the disk.

- Do not place floppy disks near magnets or heat source, in direct sunlight or in a dusty place, etc.

- Never subject a disk to sudden shocks or extreme vibration. Do not drop, bend, or place heavy objects on a disk.

- Do not spill liquid onto a disk.

Inserting the Floppy Disk

Hold the floppy disk with the arrow facing up, toward the drive. Slide the disk into the drive until it locks into place.

3

With the Arrow
Mark facing UP

Indicator
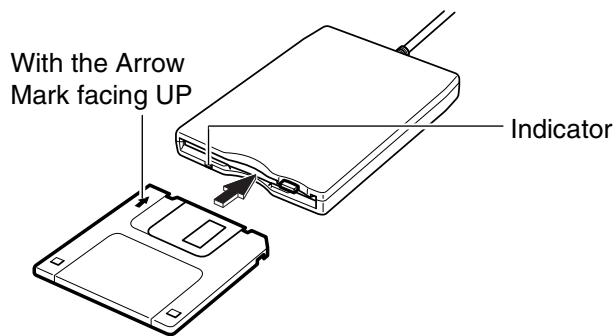
- *Always insert a floppy disk straight into the floppy disk drive.*
- *When inserting the disk, make sure it is not upside down.*
- *Do not use excessive force when inserting the floppy disk. If you have difficulty inserting or removing disks, consult an authorized service technician.*
- *Do not touch the disk while the computer is reading/writing data. It may cause malfunction of the computer and the drive.*

Ejecting the Floppy Disk

⚠️ *Before ejecting the floppy disk, make sure the indicator of the floppy disk drive unit is not lit.*

1. Press the eject button firmly so that the disk pops out slightly.
2. Eject and store the disk properly.

3

Eject Button
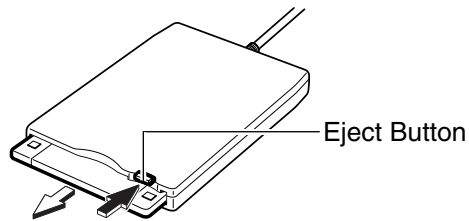
Removing Optional External Floppy Disk Drive Unit

To remove the unit, follow these instructions.

1. Click the *Safely Remove Hardware* icon ( ) on the taskbar.
2. Click *Safely remove Mitsumi USB Floppy – Drive(A:)*; then, the *Safe To Remove Hardware* dialog appears.
3. Remove the unit from the computer.

Printers

You can use a USB printer by connecting it to one of the USB ports on the computer.

☑ *Before using a printer, read the printer manual and install the printer driver to the computer.*

Connecting the Printer

⚠ *When connecting the cable to one of the USB ports, be sure to keep the USB mark (⟜) side up.*

☑ *Be sure to read the printer manual before connecting a USB printer to the computer. Some printer may not use the* Found New Hardware *wizard to install the printer driver.*

You can connect the USB printer to the computer without turning off the computer.

Printer

USB Port

With the USB Mark facing UP

USB Cable
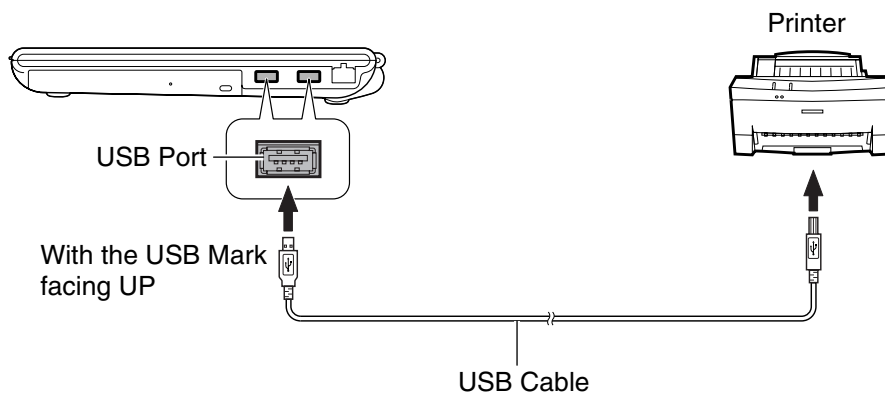
To remove the printer from the computer, refer to the steps in the *USB Devices* section on page 3-3.

External Monitors

You can connect an external monitor to the computer to display images on it.

- *Some external monitors, which are not compatible with the computer, may not display correctly.*
- *In this section, you often see the expression "Display Properties dialog box." To open the dialog box, right-click somewhere on the Windows desktop and select* Properties *from the pop-up menu.*
- *To display the image on an external monitor, you may need to install its driver. Before using the external monitor, refer to the manual included with it.*

Connecting the External Monitor

1. Turn off the computer and the external monitor.
2. Connect one end of the display cable to the external display port, then, the other end of the display cable to your external monitor.

External Display Port

Display Cable
(supplied with the monitor
or in the market)
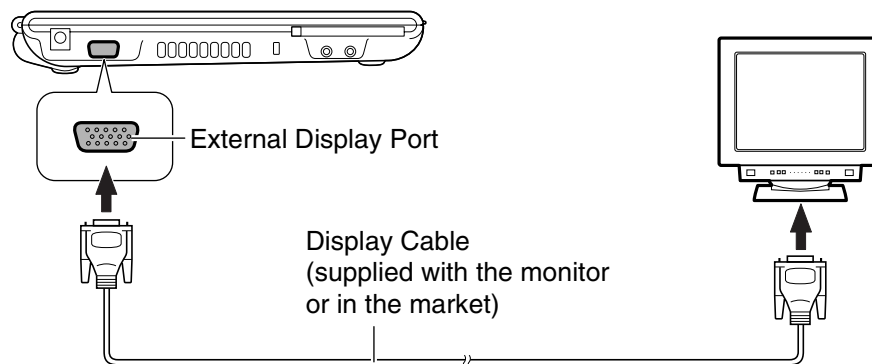
3. Turn on the external monitor.
4. Turn on the computer.

Switching the Display

You can switch the output display by the **Fn+F5** (▣) keys or the specified performance on Windows.

✓
- *When displaying on both the LCD monitor and an external monitor simultaneously, the external monitor must be capable of a 1280 x 800 resolution. Otherwise, the external monitor may not display images properly.*
- *While playing a video or animation, you may not be able to switch the display.*
- *Refer to the* Changing Resolution and Number of Colors *section on page 1-19.*

Switching the Display by Fn+F5 Keys

1. Press the **Fn+F5** (▣) keys.

   The following output display icons appear on the screen.

   When you press the **Fn+F5** keys, the icon of the current selected output display is highlighted.

   LCD display only   External display only   LCD and External displays

2. While the output display icons are on the screen, press the **Fn** key and hold it; then press **F5** key once or more to select your desired output display(s).

3. Move your fingers away from the keyboard.

   The output display icons will disappear and then, the selected output display(s) will be available.

✓   *While the image is being extended, the **Fn+F5** (▣) keys cannot work.*

Switching the Display on Windows

1. Click the *Display Properties* icon ( ) on the taskbar.

☑ *If you cannot find the icon, click ◀ to show all kinds of icons.*

2. Point to *Graphics Options* and *Output To*.
3. Select your favorite output display.

☑ *Refer to the following to select the appropriate output display.*
LCD display only: select "Notebook."
External display only: select "Monitor."
Both displays: select "Intel(R) Dual Display Clone" –
"Notebook+Monitor."

Extending an Image onto an External Monitor

To extend the image on the LCD onto the external monitor, follow these steps.

1. Click the *Display Properties* icon ( ) on the taskbar.
2. Point to *Graphics Options* and *Output To.*
3. Click *Extended Desktop*.

☑
- *When you wish to change the primary monitor, refer to the* Changing Primary Monitor *section below.*
- *To stop extending the image, select* Monitor *or* Notebook *in the step 3.*

Changing the Primary Monitor

1. Click the *Display Properties* icon ( ) on the taskbar.
2. Click *Graphics Properties*.
3. Select your favorite display in the *Primary Device* pull-down menu.

☑ *The* Secondary Device *will be automatically determined when you have selected the* Primary Device.

4. Click *OK*.

5. Click *OK* in the *Confirm the Desktop Changes* dialog box.

Disconnecting the External Monitor

1. Turn off the computer and the external monitor.

2. Remove the display cable from the computer.

Audio System
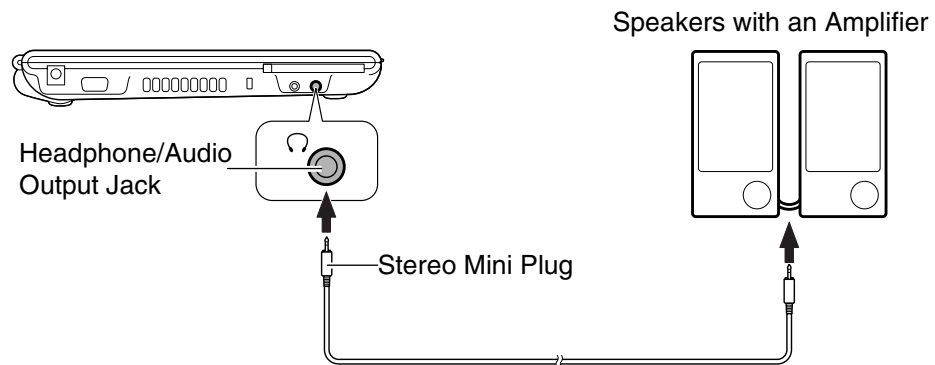
You can output sound to speakers, audio equipment, or a headphone and also input it through a microphone.
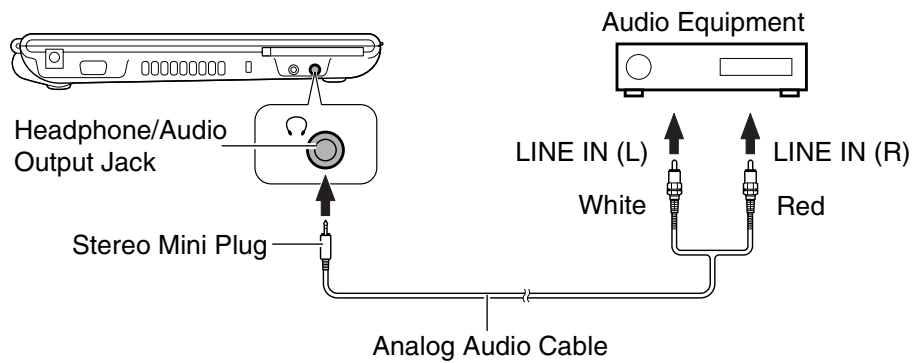
Connecting Speakers

You can connect stereo speakers with an amplifier to the audio output jack on the computer.

3

Speakers with an Amplifier

Headphone/Audio
Output Jack

Stereo Mini Plug

Connecting Audio Equipment

You can connect analog audio equipment to the audio output jack on the computer.

*You can adjust the output volume on Windows by clicking the speaker symbol on the taskbar or use the **Fn+F3** (▼) or **F4** (▲) keys.*

Connecting the Headphone

Use a headphone with an impedance of 8 Ω or more. (32 Ω is recommended.)
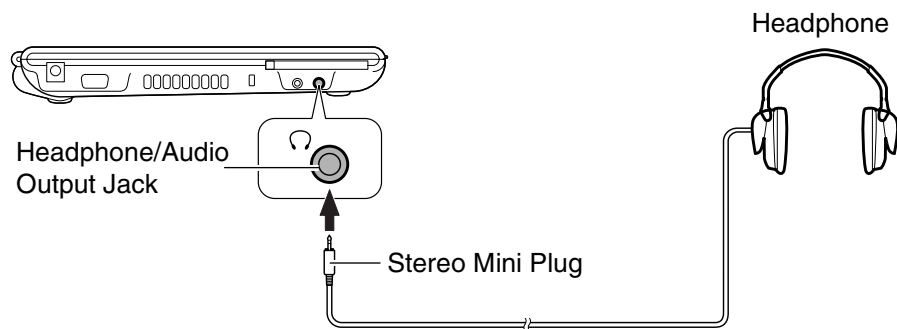
Connecting the Microphone

You can input sound using an external microphone connected to the microphone jack. Use an electric condenser microphone with an impedance of 1.5k Ω through 2.4k Ω and an allowable voltage of 2.5 V.
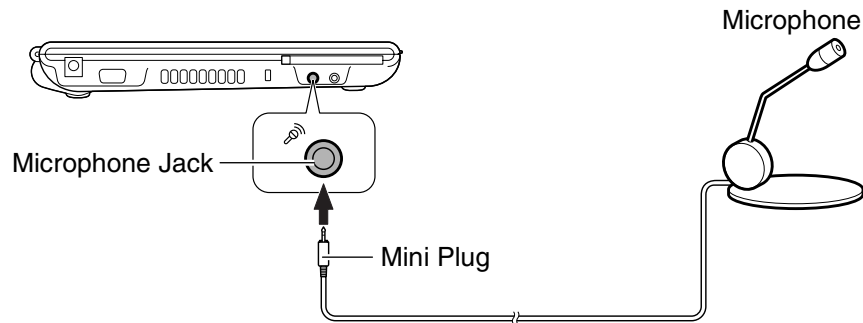
To input sound,

1. Click *start – All Programs – Accessories – Entertainment – Sound Recorder*.

2. In the *Sound Recorder* dialog box, click ⬤ button to start input.

3. Click ⬛ button to stop the input.

PC Cards

The computer is equipped with a PC card (supporting PC Card Standard, CardBus compliant) slot, which can accommodate a Type II card. You can insert/eject the card without turning off the computer. Before inserting a PC card into the slot, refer to its manual.
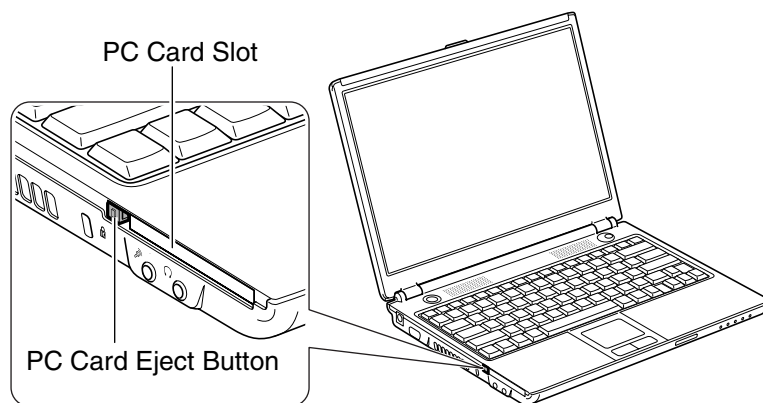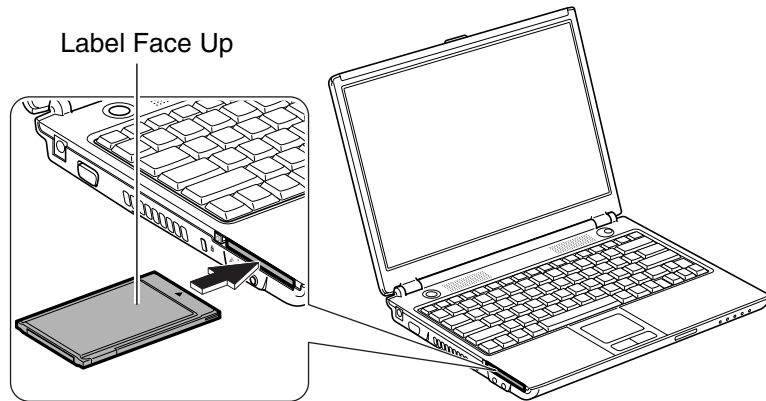
Inserting the PC Card

3

✓
- *When a new card is correctly inserted, the appropriate driver is automatically installed. If the driver is not installed correctly, you will see a message on the screen. In this case, install the PC card driver by following the instructions on the screen.*
- *When you insert a card that protrudes out of the slot such as a wireless networking card:*
  - *Do not give force to the card. Otherwise the computer may be damaged.*
  - *Do not carry the computer.*

1. Confirm the PC card eject button is inside the computer cabinet. If not, push it back into the cabinet.

PC Card Slot

PC Card Eject Button

2. Insert a PC card into the slot with the label face up until it locks into place.

Label Face Up

If the dialog box asking you *What do you want Windows to do?* appears, select the task you want.

## Ejecting the PC Card

> ⚠ • *Some PC cards may become hot after long use. Be careful when you remove the card from the PC card slot.*
> • *Be sure to use the procedure below when ejecting the PC card. Otherwise, the data on the PC card may be cleared or the system may not work properly.*

1. Click the *Safely Remove Hardware* icon ( ) on the taskbar. If you cannot find the icon, click to show all kinds of icons.

2. Click *Safely remove xxxx* (xxxx is the name of your PC card); then, the *Safe To Remove Hardware* dialog appears.
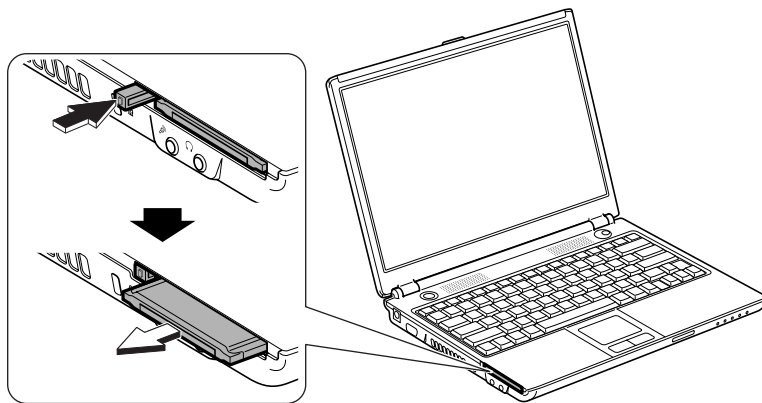
3. Push the PC card eject button so that it will pop out from the side of the computer.

PC Card Eject Button
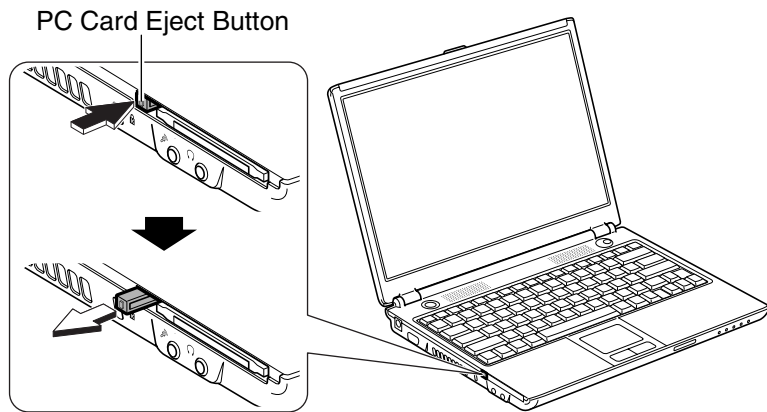
3

4. Push the PC card eject button until the inserted PC card pops out; then, remove it.

5. Push the PC card eject button all the way inside the cabinet for safekeeping.