



# Panasonic®

## OPERATING INSTRUCTIONS

### Personal Computer

Model No. **CF-W2 Series**

XP

**1**

For first-time and basic operation, refer to the Operating Instructions (this manual).

**2**

For more information on how to use this computer, refer to the onscreen Reference Manual.

→ page 12

For your technical support office, refer to "LIMITED WARRANTY."

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Preparations

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Getting Started

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Troubleshooting

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Important Information

## Customer's Record

Model No.\*<sup>1</sup>

Dealer's Name

Serial No.

or

Code No.

Dealer's Address

Date of Purchase

\*<sup>1</sup> For the Model No., insert the 12 digit number (for example, CF-W2FWCZZBM) located on the bottom of the computer.

## Introduction

Thank you for purchasing the Panasonic computer. Read this manual thoroughly for proper operation of your new computer.

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# Read Me First

## For U.S.A.

### Federal Communications Commission Radio Frequency Interference Statement

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 equipment 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 separation 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 Panasonic Service Center or an experienced radio/TV technician for help.

### Warning

To assure continued compliance, use only shielded interface cables when connecting to a computer or peripheral. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

### FCC RF Exposure Warning:

- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment must be installed and operated in accordance with provided instructions and minimum 1.5 cm spacing must be provided between antenna and all person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.
- This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.
- This computer is provided with a PC Card slot that could be used with wireless transmitter(s), which will be specifically recommended, when they become available. Other third-party wireless transmitter(s) have not been RF exposure evaluated for use with this computer and may not comply with FCC RF exposure requirements.

This product is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range.

FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems.

High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These

radar stations can cause interference with and /or damage this product.

This device complies with Part 15 of the FCC Rules.

Operation is subject to the following two 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: Panasonic Corporation of North America  
One Panasonic Way  
Secaucus, NJ 07094  
Tel No:1-800-LAPTOP5 (1-800-527-8675)

### FCC Regulation Notice for modem

**This equipment contains a FCC approved modem.**

**FC** Tested To Comply  
With FCC Standards  
FOR HOME OR OFFICE USE

1. This equipment complies with CFR47 Part 68 rules. On the computer is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If required, this information must be provided to the telephone company.
2. An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.
3. The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all area, 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.
4. If your telephone equipment cause 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.
5. The telephone company may take 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.

# Read Me First

6. If trouble is experienced with this equipment, for repair or warranty information, please contact Panasonic Corporation of North America at DIAL TOLL FREE 1-800-LAPTOP5 (1-800-527-8675). 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.
7. There are no user serviceable parts contained in this equipment.
8. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.
9. The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine 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 entry, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. In order to program this information into your fax software, you should refer to the manual of the Fax software being used.

10. According to the FCC's electrical safety advisory, we recommend that you may install an AC surge arrestor in the AC outlet to which this equipment is connected. Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment connected to AC power sources and that this is a major nationwide problem.

"Caution: To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord."

"ATTENTION: Pour réduire le risque d'incendie, utiliser uniquement des conducteurs de télécommunications 26 AWG ou de section supérieure."

## Notice for the products using LCD

This product uses one or more fluorescent lamps containing a small amount of mercury. It also contains lead in some components. Disposal of these materials may be regulated in your community due to environmental considerations. For disposal or recycling information please contact your local authorities, or the Electronics Industries Alliance: <<http://www.eiae.org/>>

## For Canada

### Industry Canada (IC) Notice for modem

This equipment contains an Industry Canada approved modem unit.

The Industry Canada label is affixed on the modem unit.

### EQUIPMENT ATTACHMENT LIMITATIONS

"NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves, but should

contact the appropriate electric inspection authority, or electrician, as appropriate." "NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals 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 Ringer Equivalence Numbers of all the devices does not exceed 5."

REN: See bottom of the computer

### RESTRICTIONS CONCERNANT LE RACCORDEMENT DE MATÉRIEL

"AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.

Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement. L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.

Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur.

L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.

Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales. Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas."

"AVIS: L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de tous les dispositifs n'excède pas 5."

IES: Voir sous le fond de l'ordinateur

### Industry Canada

This product complies with RSS210 Industry Canada. Operation is subject to the following two conditions; (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

This product (local network devices) for the band 5150-5250 MHz is only indoor usage to reduce potential for harmful interference to co-channel Mobile Satellite systems.

High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LELAN devices.

## Important Safety Instructions / Importantes Mesures De Sécurité

When using 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:

1. Do not use this product near water, for example, near a bath tub, washbowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
3. Do not use the telephone to report a gas leak in the vicinity of the leak.
4. Use only the power cord and batteries indicated in this manual. Do not dispose of batteries in a fire. They may explode. Check with local codes for possible special disposal instructions.

SAVE THESE INSTRUCTIONS

Certaines mesures de sécurité doivent être prises pendant l'utilisation de matériel téléphonique afin de réduire les risques d'incendie, de choc électrique et de blessures. En voici quelquesunes:

1. Ne pas utiliser l'appareil près de l'eau, p.ex., près d'une baignoire, d'un lavabo, d'un évier de cuisine, d'un bac à laver, dans un sous-sol humide ou près d'une piscine.
2. Éviter d'utiliser le téléphone (sauf s'il s'agit d'un appareil sans fil) pendant un orage électrique. Ceci peut présenter un risque de choc électrique causé par la foudre.
3. Ne pas utiliser l'appareil téléphonique pour signaler une fuite de gaz s'il est situé près de la fuite.
4. Utiliser seulement le cordon d'alimentation et le type de piles indiqués dans ce manuel. Ne pas jeter les piles dans le feu: elles peuvent exploser. Se conformer aux règlements pertinents quant à l'élimination des piles.

CONSERVER CES INSTRUCTIONS

# Read Me First

## Information to the User

### This product and your Health

This product, like other radio devices, emits radio frequency electromagnetic energy. The level of energy emitted by this product however is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones.

Because this product operates within the guidelines found in radio frequency safety standards and recommendations, we believe this product is safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.

In some situations or environments, the use of this product may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

- Using this product on board of airplanes, or
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless devices in a specific organization or environment (e.g. airports), you are encouraged to ask for authorization to use this product prior to turning on the product.

### Regulatory Information

We are not responsible for any radio or television interference caused by unauthorized modification of this product. The correction of interference caused by such unauthorized modification will be the responsibility of the user. We and its authorized resellers or distributors are not liable for damage or violation of government regulations that may arise from failing to comply with these guidelines.

## Lithium Battery

### Lithium Battery!

This computer contains a lithium battery to enable the date, time, and other data to be stored. The battery should only be exchanged by authorized service personnel.

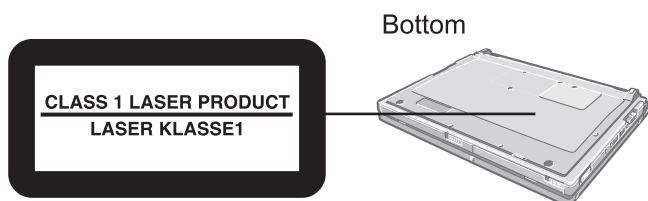
Warning! A risk of explosion from incorrect installation or misapplication may possibly occur.

### Pile au lithium!

Le micro-ordinateur renferme une pile au lithium qui permet de sauvegarder certaines données, notamment la date et l'heure. La pile ne doit être remplacée que par un technicien qualifié.

Danger! Risque d'explosion en cas de non respect de cette mise en garde!

## DVD-ROM & CD-R/RW Drive Caution



### CAUTION!

THIS PRODUCT UTILIZES A LASER. USE OF CONTROLS, ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF.

REFER SERVICING TO QUALIFIED PERSONNEL.

### AVERTISSEMENT!

CET APPAREIL UTILISE UN LASER. L'UTILISATION DE COMMANDES OU DE RÉGLAGES OU L'EXÉCUTION DE PROCÉDURES AUTRES QUE CELLES SPÉCIFIÉES ICI PEUVENT PROVOQUER UNE EXPOSITION À DES RADIATIONS DANGEREUSES.

NE PAS OUVRIR LES COUVERCLES NI ESSAYER DE RÉPARER SOI-MÊME.

CONFIER TOUT TRAVAIL D'ENTRETIEN À UN PERSONNEL QUALIFIÉ.

# Precautions

## ◆ Usage



### Avoid Extreme Heat and Cold

Do not store or use the computer in locations exposed to heat, direct sunlight, or extreme cold.

Avoid moving the computer between locations with large temperature difference.

Operation: 5 °C to 35 °C {41 °F to 95 °F}

Storage: -20 °C to 60 °C {-4 °F to 140 °F}



### Avoid Direct Sunlight on the LCD Panel

The LCD panel should not be exposed to direct sunlight or ultraviolet light.



### Avoid Humidity, Liquids and Dust

Do not store or use the computer in locations exposed to high humidity, liquids (including rain) or dust.



### Prevent Shock

Avoid subjecting the computer to severe vibrations or impact. Do not place the computer inside a car trunk.



### Avoid Radio Frequency Interference

Do not place the computer near a television or radio receiver.



### Avoiding Low-temperature Burns<sup>\*1</sup>

Avoid more than casual contact with any heat producing area of the notebook computer, AC adaptor, and any option or accessory you use with it. Even low heat, if warmer than body temperature, can cause a burn, if the skin is exposed to the heat source for a long period of time.



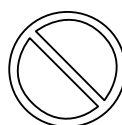
### Do not touch the computer and cable when it starts thundering



### Keep SD memory cards and MultiMedia Cards (both sold separately) away from infants and small children

Accidental swallowing will result in bodily injury.

In the event of accidental swallowing, see a doctor immediately.



### Do not connect a telephone line, or a network cable other than the one specified, into the LAN port

If the LAN port is connected to a network such as the ones listed below, a fire or electric shock may result.

- Networks other than 100BASE-TX or 10BASE-T
- Phone lines (Telephone lines, internal phone lines (on-premise switches), digital public phones, etc.)

## ◆ Handling



### Avoid Magnetic Fields

Keep the computer away from magnets. Data stored on the hard disk may be lost.



### Avoid Stacking

Do not place heavy objects on top of the computer.



### Do Not Disassemble the Computer

Do not disassemble the computer using methods other than those shown in this manual.

This computer contains high-voltage parts, contact with which may result in electrical shock. Modification or incorrect disassembly may result in fire.



### Avoid Excessive Force on the Display

Do not apply excessive downward force on the display.

<sup>\*1</sup> About low-temperature burns  
Allowing one area of the skin to be in direct contact with an object that is even slightly warmer than body temperature for long periods of time may result in a "low-temperature burn."

# Read Me First



## If a malfunction occurs, immediately unplug the AC cord and the battery pack

- Computer is damaged
- Foreign object inside computer
- Smoke emitted
- Unusual smell emitted
- Unusually hot

Continuing to use the computer while any of the above conditions are present may result in fire or electrical shock.

- If a malfunction occurs, immediately turn the power off and unplug the AC cord and the battery pack.



## Do not do anything that may damage the AC cord, the DC plug, or the AC adaptor

Do not damage or modify the cord, place it near hot tools, bend, twist, or pull it forcefully, place heavy objects on it, or bundle it tightly.

Continuing to use a damaged cord may result in fire, short circuit, or electrical shock.

## Clean the DC plug of dust and other debris regularly

If dust or other debris accumulates on the plug, humidity, etc. may cause a defect in the insulation, which may result in a fire.

- Pull the plug, and wipe it with a dry cloth.  
Pull the plug if the computer is not being used for a long period of time.



## Do not pull or insert the DC plug if your hands are wet

May result in electrical shock.

## Insert the AC plug completely

If the plug is not inserted completely, fire due to overheating or electrical shock may result.

- Do not use a damaged plug or loose electrical socket.



## Do not place metal objects or containers of liquid on top of the computer

- If water or other liquid spills, or if paper clips, coins, or other metal objects get inside the computer, fire or electrical shock may result.



## Do not place the computer on unstable surfaces

If balance is lost, the computer may fall over or drop, resulting in an injury.



## Do not move the computer while the DC plug is connected

The AC cord may be damaged, resulting in fire or electrical shock.

- If the AC cord is damaged, remove the DC plug immediately.

## Hold the plug when unplugging the AC cord

Pulling on the cord may damage the cord, resulting in a fire or electrical shock.

## Do not turn the volume up to loud when using headphones

Listening at high volumes that overstimulate the ear for long periods of time may result in loss of hearing.

## Take a break of 10-15 minutes every hour

Using the computer for long periods of time may have detrimental health effects on the eyes or hands.

## Do not look into the DVD-ROM & CD-R/RW drive

Looking directly at the internal laser light source may result in damage to eyesight.

## Do not use disks that are cracked or deformed

Because the disks rotate at high speeds, damaged disks may break apart causing injury.

- Disks that are not round and disks that have been repaired using adhesives are similarly dangerous, and so should not be used.

## Do not cover the computer with a thick cloth, such as a blanket



## Precautions (Wireless LAN)

### **Keep the computer at least 22 cm {8.7"} away from heart pacemaker devices**

Pacemaker operations may be affected by radio waves.

### **Turn off<sup>\*1</sup> inside of airplanes**

Radio waves may obstruct the safe operations of the aircraft. Follow the instructions of the airline with regard to use on airplanes.

### **Do not use near automatic doors, fire alarms, and other automatic control devices**

Radio waves from this computer may affect automatic control devices, resulting in damage due to malfunctions.




### **Turn off<sup>\*1</sup> in hospitals and other locations with electrical medical devices (do not bring into operating rooms, intensive care units, CCUs<sup>\*2</sup>, etc.)**

Radio waves from this computer may affect electrical medical devices, resulting in damage due to malfunctions.

### **Turn off<sup>\*1</sup> in crowded areas, as persons wearing heart pacemakers may be nearby**

Pacemaker operations may be affected by radio waves.

<sup>\*1</sup> If it is necessary to use the computer in these types of environments, turn the wireless LAN off using the following procedure. Note, however, that use of computers even while the wireless LAN is off may be prohibited during takeoff and landings, and at other times.

Double-click the  (yellow icon), the  (red icon) or the  (green icon) on the notification area, click ▼ and click [Wireless Off].

<sup>\*2</sup> CCU: Coronary Care Unit

## Precautions (Battery Pack)

- Care should be exercised with regard to the following in order to avoid the possibility of overheating, fire or damage.



### Avoid Heat

Do not throw the battery pack into a fire or expose it to excessive heat.



### Keep Articles Away

Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.



### Do Not Disassemble

Do not insert sharp objects into the battery pack, expose it to bumps or shocks, deform, disassemble, or modify it.



### Do Not Short

Do not short the positive (+) and negative (-) contacts.



### Avoid Extreme Heat, Cold and Direct Sunlight

Do not charge, use or leave the battery pack for extended periods where it will be exposed to direct sunlight, in a hot place (in a car on a sunny day, for example), or in a cold place.



**Do not charge the battery using the methods other than indicated in this manual**



**Do not use this computer with a battery pack other than the one specified (the one included with the computer or the specified battery pack sold separately)**



### Do Not Use With Any Other Computer

The battery pack is rechargeable and was intended for the specified computer. Do not use it with a computer other than the one for which it was designed.



### Do Not Put into a Microwave

Do not put the battery pack into a microwave oven or a pressurized chamber.



### Stop Using

Should the battery emit an abnormal odor, become hot to the touch, become discolored, change shape, or become in any way different from normal, remove it from the computer and stop using it.

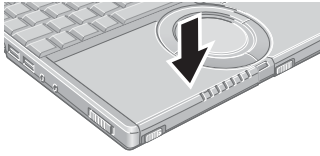
- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- Do not expose the battery pack to water, or allow it to become wet.
- If the battery pack will not be used for a long period of time (a month or more), charge or discharge (use) the battery pack until the remaining battery level becomes 30% to 40% and store it in a cool, dry place.
- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% of capacity.
- The battery pack is not charged when the computer is first purchased. Be sure to charge it before using it for the first time. When the AC adaptor is connected to the computer, charging begins automatically.
- Should the battery leak and the fluid get into your eyes, do not rub your eyes. Immediately flush your eyes with clear water and see a doctor for medical treatment as soon as possible.

### NOTE

- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence if internal temperature of the battery pack is outside of the allowable temperature range (0 °C to 55 °C {32 °F to 131 °F}). (→ "Chapter 2: Battery Power" in onscreen Reference Manual) Once the allowable range requirement is satisfied, charging begins automatically. Note that the recharging time varies based on the usage conditions. (Recharging takes longer than usual when the temperature is 10 °C {50 °F} or below.)
- If the temperature is low, the operating time is shortened. Only use the computer within the allowable temperature range.
- The battery pack is a consumable item. If the amount of time the computer can be run by using a particular battery pack becomes dramatically shorter and repeated recharging does not restore its performance, the battery pack should be replaced with a new one.
- When transporting a spare battery inside a package, briefcase, etc., it is recommended that it be placed in a plastic bag so that its contacts are protected.
- Always power off the computer when it is not in use. Leaving the computer on when the AC adaptor is not connected will exhaust the remaining battery capacity.

# Usage Precautions / About Notations

## Usage Precautions



### ◆ When closing the disk cover

- Press down near the power indicator ① (position of the arrow) to ensure that the cover is locked.

## About Notations

| Notations       | Meanings   |
|-----------------|--|
| NOTE            | NOTE provides a useful fact or helpful information.  |
| CAUTION         | CAUTION indicates a condition that may result in minor or a moderate degree of injury.   |
| <b>Enter</b>    | This illustration means pressing the <b>Enter</b> key.   |
| <b>Fn+F5</b>    | This illustration refers to pressing and holding the <b>Fn</b> key, then pressing the <b>F5</b> key. When using with the <b>Fn</b> and <b>Ctrl</b> functions interchanged (→ page 33), read with <b>Fn</b> and <b>Ctrl</b> reversed. |
| [start] - [Run] | This illustration tells you to click [start], then to click [Run].   |
| →               | This symbol indicates related pages.   |

- Some of the illustrations in this manual may differ slightly in shape from the actual items on your computer. This should make the explanation easier to understand.
- If a user has logged on to Windows without the Administrator Authority, some functions may not be executable, and some screens may not be displayed as shown in this manual.  
If this happens, log-on to Windows with the Administrator Authority to enable these functions.
- In this manual, "Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies" is indicated as "Windows" or "Windows XP."
- In this manual, the following software packages are described as follows:
  - "WinDVD™ 5 (OEM Version)" as "WinDVD"
  - "B's Recorder GOLD8 BASIC" as "B's Recorder"
  - "B's CLiP 6" as "B's CLiP"
- Optional Products or Accessories  
Confirm the latest information on optional products or accessories from other sources.

# How to Use This Manual

## Manual Types and Contents

|                           |                                      |  |
|---------------------------|--------------------------------------|--|
| Using the hard copy       | Operating Instructions (This manual) | This manual explains startup methods and basic operations required when using the computer for the first time.   |
| Using the onscreen manual | Reference Manual (PDF format)        | The Reference Manual explains functions for you to make greater use of the computer, such as how to add peripheral devices, how the Setup Utility works, and other useful information. |
|                           | Important Tips (PDF format)          | Important Tips provides information on how to maximize use of the battery pack, which is necessary for computing away from your home or office.  |
|                           | Windows Help                         | Windows Help explains operations and functions about Windows.  |

## How to Use the Onscreen Manual

### Contents of the Reference Manual

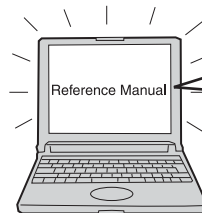
- Reference Manual (Cover)
- Chapter 1: About the Reference Manual
  - Read Me First
  - How to Use this Reference Manual
- Chapter 2: Getting Started (Basic Operation)
  - Using the Touch Pad
  - Using the Fn Key
  - Confirm the Status Using the LEDs
  - Battery Power
  - Computing on the Road
  - Standby/Hibernation Functions
  - Security Measures
- Chapter 3: Using the Drive
  - DVD-ROM & CD-R/RW Drive
  - About CD Media
  - About DVD Media
  - Inserting/Removing a Disk
  - Watching DVD Video (WinDVD)
  - Writing to CDs (B's Recorder/B's CLIP)
- Chapter 4: Using Cards and Peripheral Devices
  - PC Cards
  - SD Memory Card/MultiMedia Card
  - SD Memory Card Security Function
  - External Display
  - USB Devices (External Mouse etc.)
  - Printer
- Chapter 5: Communications
  - Modem
  - LAN
  - Wireless LAN
- Chapter 6: Changing for the Computer's Status
  - Setup Utility
  - Icon Enlarger
  - Loupe Utility
- Chapter 7: Troubleshooting
  - Problems with Starting Up, Shutting Down, and Standby and Hibernation Mode
  - Problems with Passwords and Messages
  - Problems with Operation during Use
  - Problems with Battery
  - Problems with Cursor
  - Problems with Display
  - Problems with Notification Area
  - Problems with Input
  - Problems with Disk and Drive
  - Problems with Sound
  - Problems with Peripherals
  - Problems with General Network
  - Problems with Wireless LAN
  - Check the Computer's Usage Status
  - Information for Installed Applications
- Chapter 8: Important Information
  - Protecting Your Computer from Viruses
  - To Update this Computer to its Latest Version
- Chapter 9: Useful Information
  - Windows-related Information
  - To View the System Configuration (DMI Viewer)
  - Glossary
  - Index

The manual is saved in the computer's hard disk. To view the manual, start up the computer after completing the settings for "First-time Operation" (➔ page 17).

- When the manuals in PDF format (see above) are accessed for the first time, the License Agreement of the Adobe Reader may be displayed. If it is displayed, after reading the agreement, click [Accept].
- Refer to Acrobat Reader Help to use the Acrobat Reader.

### ◆ How to access the Reference Manual

- 1 Click [start] then click [Reference Manual].



#### Using onscreen Reference Manual

- How to set the power conservation function
- How to set peripheral device functions
- Other information not included in the Operating Instructions

### ◆ How to access the Important Tips

- 1 Double-click the  icon on the desktop.

Important Tips can also be accessed from [start] - [All Programs] - [Panasonic] - [On-Line Manuals] - [Important Tips].

### ◆ How to access Windows Help

- 1 Log on to Windows with the administrator authority and click [start] - [Help and Support].

## ◆ Enjoy videos, music, data exchange, and other functions easily with SD memory card!

→ “Chapter 4: SD Memory Card/MultiMedia Card” in onscreen Reference Manual

## ◆ Enlarge the display of characters and icons on the screen!\*

→ “Chapter 6: Icon Enlarger/Loupe Utility” in onscreen Reference Manual

\*1 Some characters in the application software, homepages and HTML e-mails may not be magnified.

## ◆ Set a password to prevent unauthorized use!

- Various password settings / using the SD memory card

→ “Chapter 2: Security Measures” and “Chapter 4: SD Memory Card Security Function” in onscreen Reference Manual

## ◆ Effective in giving presentations!

- Also offers a standard external display connector

→ “Chapter 4: External Display” in onscreen Reference Manual

## ◆ Enjoy wireless broadband wireless LAN functions (conforms to IEEE802.11a+b+g)!

- Before using a wireless LAN, check the wireless LAN on. (→ page 40)

## ◆ Various methods for connecting to the Internet!

- Use a telephone line, LAN, or wireless LAN.

→ “Chapter 5: Modem/LAN/Wireless LAN” in onscreen Reference Manual

## ◆ Protect your computer from viruses!

- Use the Windows Security Center function. → page 42

## ◆ Keep your computer in the most updated condition!

- Use Windows Update or other update functions.

→ “Chapter 8: To Update this Computer to its Latest Version” in onscreen Reference Manual


## ◆ Watch DVD videos! Write to CDs!

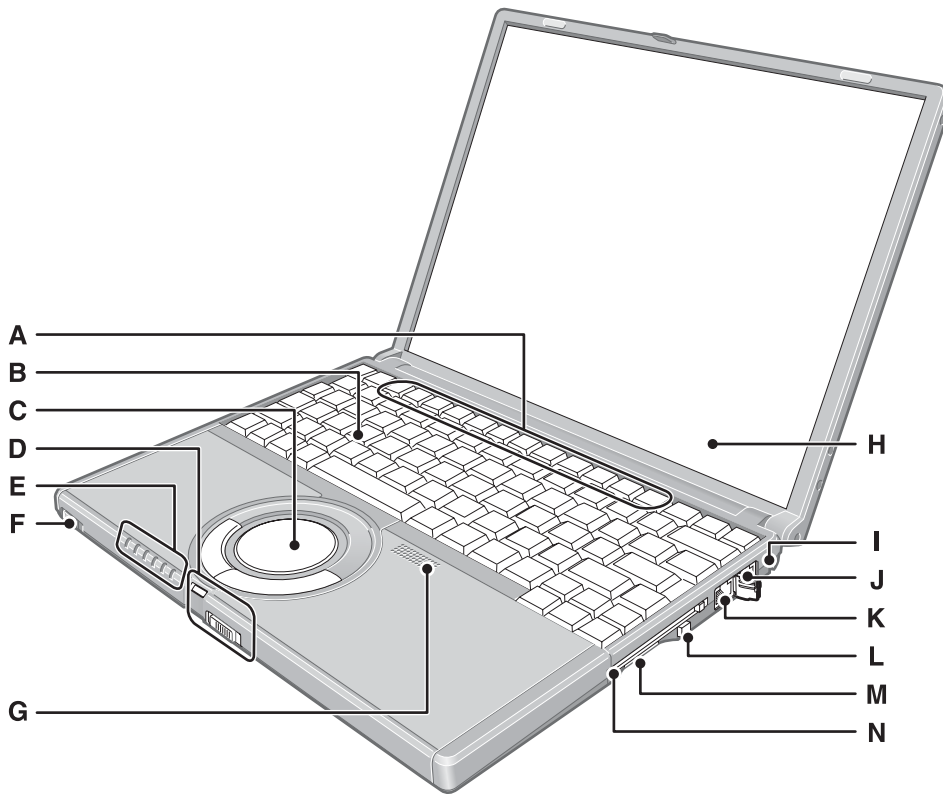
- WinDVD, B's Recorder, B's CLiP already installed.



- The drive construction (in which the disk cover opens from the top) makes it easy to set disks even in tight places.






→ “Chapter 3: Using the Drive” in onscreen Reference Manual

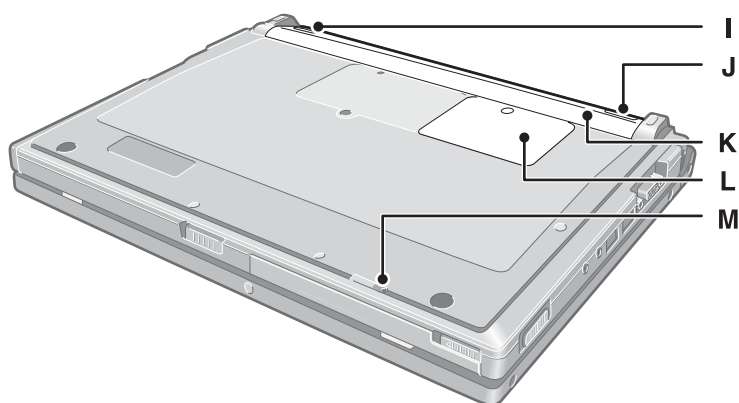
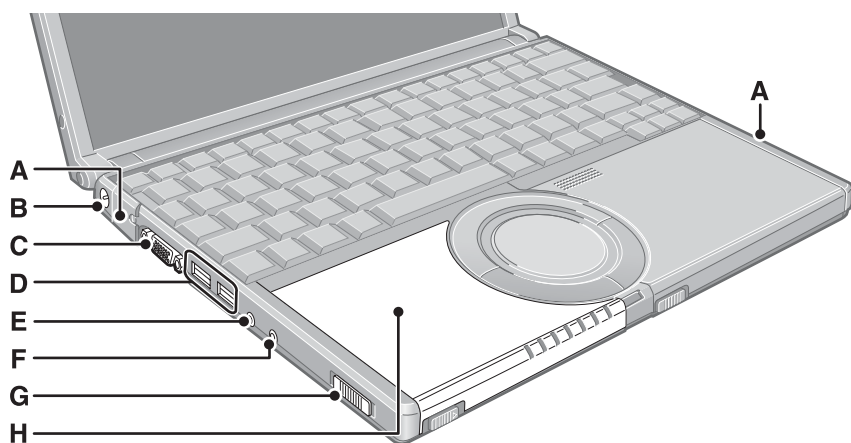
# Names and Functions of Parts

| Names    |  | Functions/Reference   |
|----------|--|---|
| <b>A</b> | Function Keys  | Press a key in combination with the <b>Fn</b> key to execute the function allocated to that key. → page 28  |
| <b>B</b> | Keyboard   | —   |
| <b>C</b> | Touch Pad  | → page 26   |
| <b>D</b> | Latch  | When the display is closed and the latch is locked, the computer goes into standby or hibernation Mode. (→ “Chapter 2: Standby/Hibernation Functions” in onscreen Reference Manual)<br><ul style="list-style-type: none"> <li>● When the computer is in standby or hibernation mode, open the display to restart operations.</li> </ul> |
| <b>E</b> | LEDs   | → page 16   |
| <b>F</b> | Power Switch  | Slide the switch for about one second to turn the power on. → page 18   |
| <b>G</b> | Speaker  | <ul style="list-style-type: none"> <li>● To adjust the volume: <b>Fn+F5</b> (down) / <b>Fn+F6</b> (up)</li> <li>● Speaker on/off: <b>Fn+F4</b></li> </ul>   |



|          |  |   |
|----------|--|---|
| <b>H</b> | Display (Internal LCD)   | To adjust the LCD brightness: <b>Fn+F1</b> (down) / <b>Fn+F2</b> (up)<br><ul style="list-style-type: none"> <li>● You can select a different brightness level setting for when the AC adaptor is connected and for when it is not connected.</li> </ul> |
| <b>I</b> | Security Lock  | A Kensington cable can be connected.<br>For more information, read the manual that comes with cable.  |
| <b>J</b> | Modem Port  | Connect modem telephone cable.<br>→ “Chapter 5: Modem” in onscreen Reference Manual   |
| <b>K</b> | LAN Port    | Connect LAN cable.<br>→ “Chapter 5: LAN” in onscreen Reference Manual   |
| <b>L</b> | SD Memory Card Indicator   | → page 16   |
| <b>M</b> | SD Memory Card Slot  | → “Chapter 4: SD Memory Card/MultiMedia Card” in onscreen Reference Manual  |
| <b>N</b> | PC Card Slot   | → “Chapter 4: PC Cards” in onscreen Reference Manual  |

| Names    |   | Functions/Reference  |
|----------|---|--|
| <b>A</b> | Wireless LAN Antenna (built-in)   | This computer has a built-in antenna for wireless LAN communications.<br>→ "Chapter 5: Wireless LAN" in onscreen Reference Manual  |
| <b>B</b> | DC-IN Jack             | Connect the AC adaptor. → page 18  |
| <b>C</b> | External Display Port  | Connect the external display cable.<br>→ "Chapter 4: External Display" in onscreen Reference Manual  |
| <b>D</b> | USB Ports              | Connect the USB cable.<br>→ "Chapter 4: USB Devices (External Mouse etc.)" in onscreen Reference Manual  |
| <b>E</b> | Microphone Jack        | Use only a monaural condenser microphone (miniature jack). Using an input source other than a monaural condenser microphone may not allow audio to be input or may damage the equipment. |
| <b>F</b> | Headphone Jack         | Use this jack to connect headphones or amplifier-equipped speakers. Audio output from the internal speaker is disabled when headphones or external speakers are connected.               |
| <b>G</b> | Open Lever  | Slide the lever to open the disk cover. This works only when the power is on.  |
| <b>H</b> | DVD-ROM & CD-R/RW Drive   | → page 44, "Chapter 3: DVD-ROM & CD-R/RW Drive" in onscreen Reference Manual   |

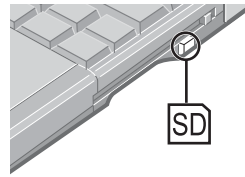
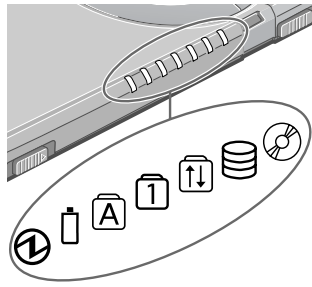


A lithium ion battery that is recyclable powers the product you have purchased. Please call 1-800-8-BATTERY for information on how to recycle this battery.

L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion. Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

|          |                 |  |
|----------|-----------------|--|
| <b>I</b> | Latch (left)    | This latch is locked manually when inserting/removing the battery pack.<br>→ page 17 |
| <b>J</b> | Latch (right)   | This latch is locked automatically when inserting the battery pack properly.         |
| <b>K</b> | Battery Pack    | → page 17, "Chapter 2: Battery Power" in onscreen Reference Manual                   |
| <b>L</b> | RAM Module Slot | → page 29  |
| <b>M</b> | Emergency Hole  | → page 44, "Chapter 3: DVD-ROM & CD-R/RW Drive" in onscreen Reference Manual         |

# Confirm the Status Using the LEDs



| Indicators | Indicator Name/Status   |
|------------|---|
|            | <p>Power indicator</p> <ul style="list-style-type: none"> <li>● Not lit: Power off / Hibernation mode</li> <li>● Green: Power on</li> <li>● Blinking green: Standby mode</li> </ul>   |
|            | <p>Battery pack indicator</p> <ul style="list-style-type: none"> <li>● Not lit: Battery pack is not connected or no charging.</li> <li>● Orange: Charging in progress.</li> <li>● Green: Fully charged.</li> <li>● Red: The battery level is very low (the charge is approx. 9% or less).</li> <li>● Blinking red: Battery pack or charging circuit may not be working properly.</li> <li>● Blinking orange: Battery cannot be recharged temporarily (The internal temperature of the battery pack is outside the acceptable temperature range for recharging.)</li> </ul>  |
|            | <p>Caps Lock indicator</p> <ul style="list-style-type: none"> <li>● This indicator lights green when the <b>Caps Lock</b> key is pressed: Subsequent non-shifted input is capitalized.</li> </ul>   |
|            | <p>NumLk indicator (Ten-key mode)</p> <ul style="list-style-type: none"> <li>● This indicator lights green when the <b>NumLk</b> key is pressed: Part of the keyboard (see figure below) will function as a ten-key numeric input. When the green light is on, if the <b>Fn</b> key is pressed along with keys on certain other segments of the keyboard, then those keys will operate as numeric keys. The [Enter] key functions differently depending on the application. To disable, press the <b>NumLk</b> key once more (the indicator will turn off).</li> <li>● When the NumLk indicator is on: the following functions will operate:</li> </ul> <p style="text-align: center;">Ten-key mode</p> |
|            | <p>ScrLk indicator (Scroll lock)</p> <ul style="list-style-type: none"> <li>● This indicator lights green when the <b>Fn+ScrLk</b> key are pressed: Scroll lock functions differently depending on the application.</li> </ul>  |
|            | <p>Hard disk drive indicator</p> <ul style="list-style-type: none"> <li>● Lighted: This indicator lights when the hard disk drive is accessed.</li> </ul>   |
|            | <p>DVD-ROM &amp; CD-R/RW drive indicator</p> <ul style="list-style-type: none"> <li>● Light off: Drive power is off.</li> <li>● Light on: Drive power is on, but the DVD-ROM &amp; CD-R/RW drive is not accessed.</li> <li>● Blinking: Drive power is on, and the DVD-ROM &amp; CDR/RW drive is being accessed.</li> </ul> <p>How to switch the drive power on/off (→“Chapter 3: DVD-ROM &amp; CD-R/RW Drive” in onscreen Reference Manual)</p>   |
|            | <p>SD memory card indicator</p> <ul style="list-style-type: none"> <li>● Lighted: This indicator lights when the SD memory card or MultiMedia Card is accessed.</li> </ul>  |

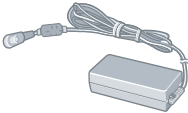
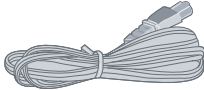
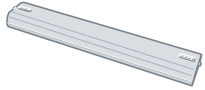




# First-time Operation

Explains operating procedures from the time of purchase to the start of first Windows operations.

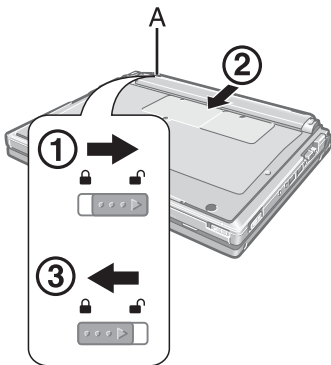
## 1 Confirm the inclusion of all parts.

Make sure the parts shown in the figure have been supplied. If any of these items are missing or is not working properly, contact your technical support office.

|  |  |  |
|--|--|--|
| AC adaptor..... 1<br><br>Model No: CF-AA1623A | AC Cord..... 1<br>               | Battery Pack..... 1<br><br>Model No: CF-VZSU27A |
| Product Recovery DVD-ROM..... 1<br>           | Modem Telephone Cable..... 1<br> | Operating Instructions (This book)..... 1<br>LIMITED WARRANTY ..... 1<br>Windows® Book... 1  |

## 2 Read the LIMITED USE LICENSE AGREEMENT (→ page 62).

Be sure to read the LIMITED USE LICENSE AGREEMENT before breaking the seal on the computer's packaging.



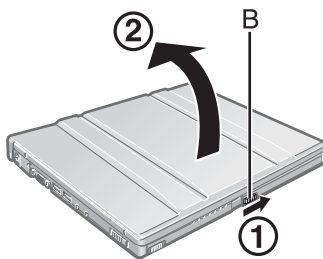
## 3 Turn the computer over and insert the battery pack.

- ① Slide the left-side latch (A) to the unlock position (🔓).
- ② Make sure the battery pack is facing the correct direction, slide it in the direction of the arrow.
- ③ Slide the left-side latch to the lock position (🔒), and then check to ensure that the battery pack is held firmly. (Right-side latch is locked automatically.)

### CAUTION

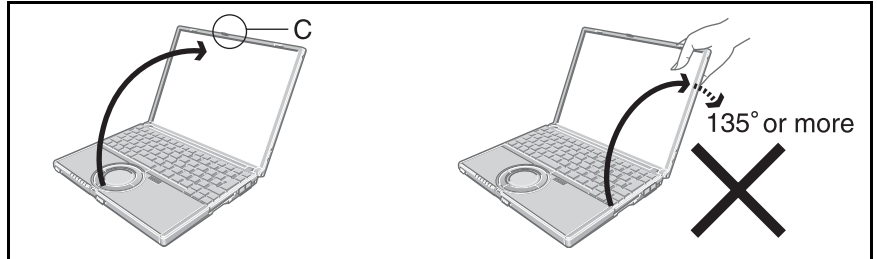
- Confirm that the latch is properly locked. If it is not, the battery pack may come off while you are carrying the computer.
- Do not touch the terminals on the battery pack and the computer. The battery pack may no longer function properly if the contacts are dirty or damaged. Also, the computer may not operate properly.
- Before using the battery pack, carefully read "Precautions (Battery Pack)" (→ page 10).

# First-time Operation



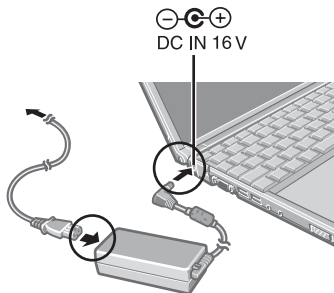
## 4 Open the display.

- ① Slide the latch (B) located at the front.
- ② Lift open the display.
  - Do not open the display wider than necessary (135° or more), and do not apply excessive pressure to the LCD. Do not open or close the computer holding the edge of the LCD segment. Hold the C (below) segment to open or close the computer.



## 5 Connect your computer to a power outlet.

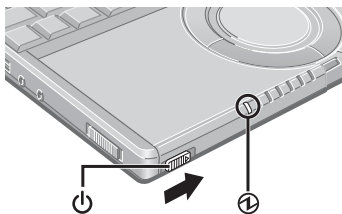
- Be sure the AC adaptor is connected until completing the first-time use operation.
- The battery pack will be charged automatically.  
Charging Time: Approx. 4.5 hours (Varies depending on the usage conditions.)
- When using the computer for the first time, do not connect any peripheral device except the battery pack and AC adaptor to the computer.





### CAUTION

#### Handling the AC adaptor

- Do not subject the AC adaptor to any strong impact.  
Using the AC adaptor after a strong impact such as being dropped may result in electrocution, short circuit, or fire.
- Use only the specified AC adaptor with your computer. Using an AC adaptor other than the one supplied might damage the battery and/or the computer.
- Problems such as sudden voltage drops may arise during periods of thunder and lightning. Since this could adversely affect your computer, an uninterruptible power source (UPS) is highly recommended unless running from the battery pack alone.

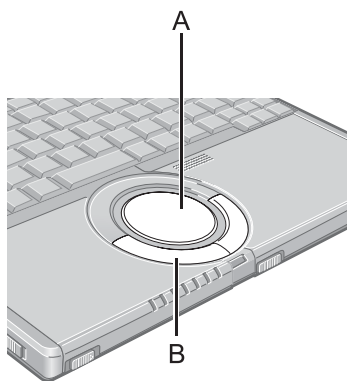


## 6 Turn your computer on.


- Slide the power switch  and hold it for approximately one second until the power indicator  turns on before releasing it.

### CAUTION

- Do not slide the power switch and hold it for more than four seconds; this will cause the power to be turned off forcibly.
- Do not slide the power switch repeatedly.
- It takes some time before [Windows XP Professional Setup] is displayed. Do not press any keys or touch the touch pad, and do not change the Setup Utility settings. If you do, Windows setup may not operate properly.






## 7 Setup Windows.

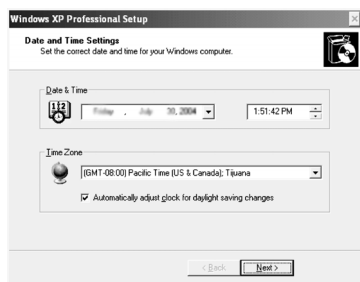
Moving the cursor  or clicking buttons can be performed with the touch pad (A) and left button (B).

- During operations, it may take some time before the next screen is displayed.

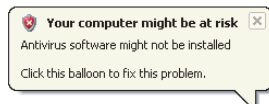
Wait, and do not press any keys, or touch the touch pad, etc.

- ① At [Welcome to the Windows XP Setup Wizard], click [Next].
- ② After reading the agreement, click [I accept this agreement], then click [Next].
  - If [I don't accept this agreement] is selected, the Windows setup will be aborted.
- ③ Select settings for your region, then click [Next].
- ④ Enter your name and then click [Next]. (You do not need to enter your organization.)
- ⑤ Enter your computer name and administrator password and then click [Next].
  - "Computer name" is for recognizing this computer when multiple computers are connected via the network.
  - Remember this password! This password may be needed to manage the computer.
- ⑥ Enter the correct date, time and the time zone, then click [Next].
  - Click  or  to set.
  - If set properly, click [Next].

- It may take some time before the computer restarts. Wait, and do not press any keys, or touch the touch pad, etc.
  - After being set automatically, the computer will restart automatically, and Windows will start.
- ⑦ Enter your password set in step ⑤ and click .
  - When inputting the password, confirm that character input is not set to "Caps Lock" or "NumLk." (→ page 16)



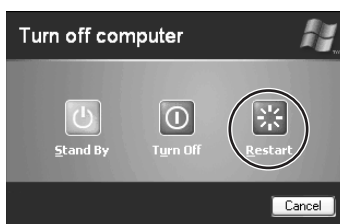
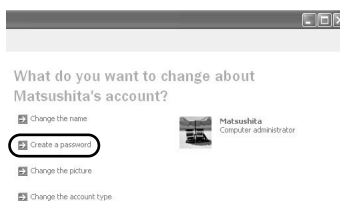
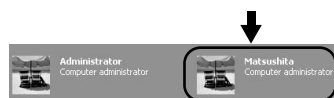
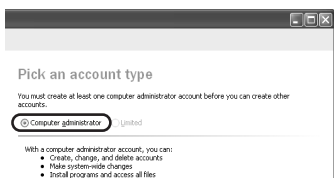
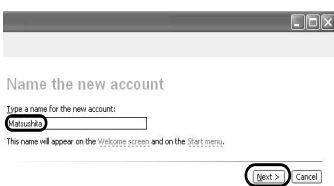
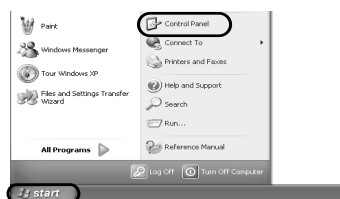
The screen shown is only an example.



### NOTE

- When Windows setup is completed
  - The following message will be displayed at the bottom right of the screen: "Your computer might be at risk." Continue to the next step. The message is generated by the [Security Center] function in [Control Panel], and does not indicate an error or malfunction. For more information about [Security Center]: → page 42

# First-time Operation



## 8 Create "User Accounts" to recognize this computer's user.

- If you make mail settings, create password reset disks (→ page 21), or conduct other related operations before creating the user account, you will be unable to use mail history or settings. Create the user account at this time.

① Click [start]<sup>\*1</sup> - [Control Panel] - [User Accounts] - [Create a new account].

<sup>\*1</sup> Immediately after Windows setup, the screen may show a display as though [start] has been clicked (i.e., [All Programs] and other menus may be shown above [start]).

② Enter a new name for the new account, then click [Next].  
(For example: Matsushita)

③ Click [Create Account].  
● When you create the first new account, you can only select [Computer administrator].  
Once a "Computer Administrator" account has been created, you can create additional limited user accounts by operating step 8.

④ Set the password.  
● When sharing this computer with multiple users, we recommend setting a password for your own account.  
● When setting password, click the account for which you will set the password, click [Create a password], and the password following the onscreen instructions, and click [Create Password].  
● Remember the password you have set. It is useful to input a hint in [password hint] in case you forget your password. In addition, we recommend that you create a password reset disk beforehand (→ page 21).  
Refer to "When administrator password is forgotten" (→ page 49) in "Dealing with Problems (Summary)."

⑤ Click [start] - [Turn Off Computer] - [Restart] to restart the computer.

⑥ At the Welcome screen, click the created user (user icon) to log-on.  
● If the password has been set, enter the password and click [OK]. You cannot operate the computer until the proper password is entered. Confirm that character input is not set to "Caps Lock" or "NumLk." (→ page 16)  
● Note also that only the added user account will be displayed in the Welcome screen. The account for the administrator created during Windows setup will not be displayed.

◆ This concludes the first-time use operation guidelines.

**NOTE**

- **About the Icon Enlarger:**
  - If the characters or icons on the screen are too small and difficult to see, after completing step 8, click [start] - [All Programs] - [Panasonic] - [Icon Enlarger]. This will allow you to magnify the display of characters and icons on the screen. (→ "Chapter 6: Icon Enlarger" in onscreen Reference Manual)
  - The [Icon Enlarger] can be set separately for each account.
- You can also use [Loupe Utility], which enlarges a part of the screen. (→ "Chapter 6: Loupe Utility" in onscreen Reference Manual)
- To improve the security of the computer, be sure to refer to "Security of the Computer" (→ page 42) and "Windows Update" (→ page 43).
- If you use the wireless LAN, be sure to refer to "Wireless LAN" (→ page 40).

## Password Reset Function

### ◆ When you have forgotten a Windows log-on password

Windows XP has a function to reset a current password and to set a new password. To use this function, you need to create a password reset disk beforehand following the steps below.

- ① Connect the USB floppy disk drive (optional: CF-VFDU03) to your computer.
- ② Click [start] - [Control Panel] - [User Accounts].
- ③ Click the account you have logged on, and click [Prevent a forgotten password] from [Related Tasks] menu.

Create a password reset disk following the onscreen instructions, and store the password reset disk in a safe place.

- Only the log-on password for each account can be reset. The password set in the Setup Utility cannot be reset.



## Screen Display

The screen displayed first when powering on the computer and logging on to Windows, is called the "desktop." (These screens and icons are only examples.)

### ◆ Icons on the desktop

When you double-click icons, the software application will run and the window will open.



### ◆ [start] menu

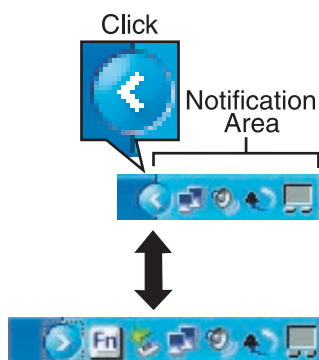
When you click [start], the menu will be displayed.

Select the software application, etc. that you want to use from the menu, and click it.



### ◆ Notification area (see the bottom right on the screen)

- If the icon on the notification area being explained in this manual is hidden and not displayed, click the [show hidden icons] icon to display all icons.
- The notification area icons used in this manual are only examples. The actual display of the order and types of icons may differ depending on your computer environment (various function settings, devices connected, etc.).



# First-time Operation

## Roles of Icons on the Notification Area

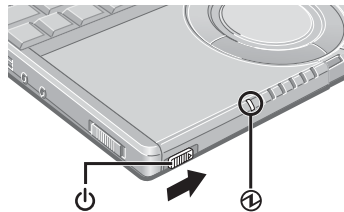
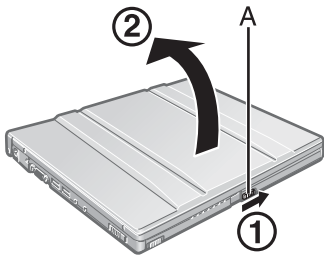
The notification area icons below are only examples.



| Icons | Names and roles   | Reference  |
|-------|---|--|
|       | Intel Extreme Graphics 2 for mobile icon<br>(Use for screen settings)   | —  |
|       | Intel® PROSet/Wireless Software icon<br>(Turn wireless LAN on/off and use to set Wireless LAN connections)  | → page 40  |
|       | 802.11a enable/disable icon<br>(Enable/disable 802.11a)   | → page 40  |
|       | Pointing device icon<br>(Use to make various touch pad settings)  | —  |
|       | Scroll icon<br>(Use to make settings and confirm status for the Touch Pad utility)  | → "Chapter 2: Using the Touch Pad" in onscreen Reference Manual                    |
|       | Volume icon<br>(Set volume)   | → Windows help   |
|       | Wireless LAN network connection icon<br>(Use to set wireless LAN connections)   | → "Chapter 5: Wireless LAN" in onscreen Reference Manual                           |
|       | LAN network connection icon<br>(Use to set LAN connections)   | → "Chapter 5: LAN" in onscreen Reference Manual                                    |
|       | B's CLiP icon<br>(Use to make various B's CLiP settings)  | → "Chapter 3: Writing to CDs (B's Recorder/B's CLiP)" in onscreen Reference Manual |
|       | Drive power icon<br>(Turn the DVD-ROM & CD-R/RW drive power on/off)   | → "Chapter 3: DVD-ROM & CD-R/RW Drive" in onscreen Reference Manual                |
|       | Battery meter icon<br>It is displayed when disconnecting the AC adaptor. (Use to make various battery settings)   | → "Chapter 2: Battery Power" in onscreen Reference Manual                          |
|       | Windows security icon<br>(Use to make or confirm security settings)   | → page 42  |
|       | Fn key icon<br>It is only displayed when adding the check mark for [Show status on screen] on the [Hotkey Settings] screen. (Use to confirm whether the Fn key is locked) | → "Chapter 2: Using the Fn Key" in onscreen Reference Manual                       |

# Starting Up/Shutting Down



## Starting Up




### 1 Open the display.


- Slide the latch (A) located at the front.
- Lift open the display.
  - Do not open the display wider than necessary (135° or more), and do not apply excessive pressure to the LCD. Also, do not hold the LCD when opening or closing the display.


### 2 Turn your computer on.

Slide the power switch  and hold it for approximately one second until the power indicator  turns on before releasing it.

- Do not slide the power switch and hold it for more than four seconds; this will cause the power to be turned off forcibly.
- While booting, avoid the following until the hard disk drive indicator  has turned off.
  - Connecting or disconnecting the AC adaptor.
  - Touching the power switch.
  - Performing any keyboard, touch pad, or external mouse operations.
  - Closing the display.
  - Sliding the open lever.
- Do not slide the power switch repeatedly.
- Once the computer is powered off, you must wait at least ten seconds before powering it on again.

### 3 Log-on to Windows.

After confirming that the hard disk drive indicator  has turned off, click the user (user's icon).

- Input the password, then click . Until the correct password is entered, the computer will not operate. Confirm that character input is not set to "Caps Lock" or "NumLK." (→ page 16)
- This operation may differ according to [Use the Welcome screen] setting (→ page 41).
- When only one user has been created and no password has been set, the screen for selecting the user will not be displayed (automatic log-on).



### 4 Select your application.

Run various software applications, etc. and operate them.

#### NOTE

- The power saving function is factory set, so if no key is pressed or if no device has been accessed for a certain interval of time:
- The power to the LCD and hard disk may be turned off. The LCD will resume operation when the touch pad or an external mouse (when one is connected) is used or a key is pressed. The power to the LCD may be turned off even when an application software is being installed. In this case, because it is conceivable that a selection dialog box will be shown, do not press the **Space** key or the **Enter** key to attempt to resume from this condition as doing so may trigger a selection, but instead, press a key unrelated to the direct triggering of a selection, like the **Ctrl** key. In addition, when the computer is left alone, it automatically enters the standby

# Starting Up/Shutting Down

or hibernation mode. The computer will resume by sliding the power switch. (→ “Chapter 2: Standby/Hibernation Functions” in onscreen Reference Manual)

- If there is no disk set in the DVD-ROM & CD-R/RW drive, the drive power will be turned off. (→ “Chapter 3: DVD-ROM & CD-R/RW Drive” in onscreen Reference Manual)
  - When the CPU temperature rises, the computer may not power on to prevent the CPU from overheating. Should this happen, allow the computer to cool down then switch the power on again.
- If the computer still does not power on, contact your technical support office.

## ◆ If the screen on the left is displayed immediately after you turn on the power...



A password has been set to ensure the computer's security.

Enter your password\*<sup>1</sup> and press the **Enter** key.

- When the correct password is input, the computer will start.
- When three incorrect password attempts or nothing is input for one minute, the computer will power off.

\*<sup>1</sup> Supervisor Password or User Password set in the Setup Utility (not the Windows password).

## Shutting Down (power off your computer)

**1 Save important data and close each application.**

**2 Display the shutdown screen.**

Click [start] - [Turn Off Computer].

(→ page 41 “Change the Way Users log on or off”)

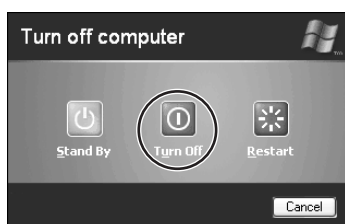
**3 Click [Turn Off].**

Your computer will power off automatically.

- Restarting your computer (without shutting down): click [Restart].

### ◆ To shut down using the keyboard:

- ① Press the **Windows** key, the **U** key, and select [Turn Off] with **→ ← ↑ ↓**.
- ② Press the **Enter** key.



### CAUTION

- Do not do the following during the shutdown/restart procedure.
  - Connecting or disconnecting the AC adaptor.
  - Touching the power switch.
  - Performing any keyboard, touch pad or external mouse operations.
  - Closing the display.
  - Sliding the open lever.

### NOTE

- When the DC plug is not connected to the computer, disconnect the AC cord from your AC wall outlet. About 1.5 W of power is consumed simply by having the AC adaptor plugged into an electrical outlet.

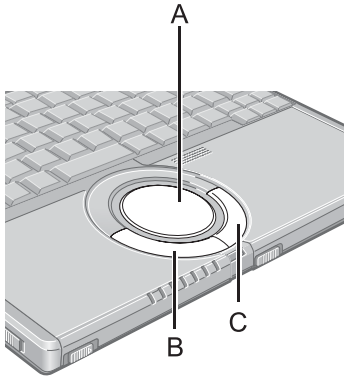


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**◆When you leave the computer or interrupt your work...**

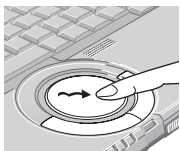
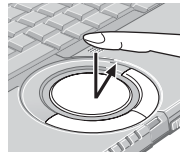
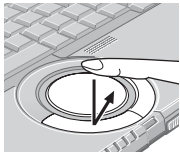

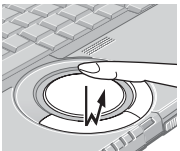




If you use the “Standby” or “Hibernation” function, then when you turn on the power next time, the application software and files you were using before will be displayed, and you can restart the same operations. (→ “Chapter 2: Standby/Hibernation Functions” in onscreen Reference Manual)

# Using the Touch Pad



Use the touch pad to move the cursor on the screen and perform computer operations.

- A. Work Surface (touch pad)
- B. Left Button
- C. Right Button

| Function                           | Operation  |
|------------------------------------|--|
| Moving the Cursor                  |  <p>Move the tip of your finger lightly over the work surface.</p>  |
| Tapping/Clicking                   |  <p>tapping</p> <p>or</p>  <p>clicking</p> <ul style="list-style-type: none"> <li>● A right-click: Can only be performed by clicking the right button.</li> </ul>  |
| Double-Tapping/<br>Double-Clicking |  <p>double-tapping</p> <p>or</p>  <p>double-clicking</p>   |
| Dragging                           |   <p>Two quick taps, but on the second tap leave your finger down (applying pressure) and move it on the work surface.</p> <p>or</p> <p>While holding down the button, move your finger on the work surface.</p> |
| Vertical Scroll                    |   <p>Trace a circle around the touch pad.</p>  |
| Horizontal Scroll                  | <p>Trace a circle around the touch pad. (→ “Chapter 2: Using the Touch Pad” in onscreen Reference Manual)</p> <p>The setup is required before using this function.</p> <p>(→ “Chapter 2: Using the Touch Pad” in onscreen Reference Manual)</p>  |

## NOTE

- You can change the speed of the double-click or the operations of mouse buttons using [Mouse Properties] screen.
  - To display [Mouse Properties]:  
Click [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse].
- When using the touch pad, keep the following in mind.
  - By design the touch pad is to be used with a finger tip only. Do not place any object or press down forcefully with sharp-pointed objects, i.e. finger nails, pencils, or pens on the work surface.

- Try to avoid having any harmful substances, such as oil, come in contact with the touch pad. The cursor may not work properly in such cases.

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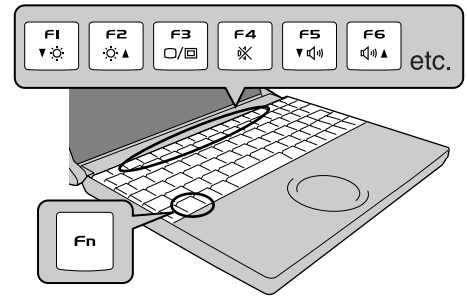
### ◆ When the cursor doesn't move the way you want it to

- Sensitivity when touching the touch pad can be adjusted.  
(→ "Chapter 2: Using the Touch Pad" in onscreen Reference Manual)
- When an external mouse is connected and the cursor does not operate properly:  
In the [Main] menu of the Setup Utility, set [Touch Pad] to [Disable]. When you want to use the touch pad again, return the setting to [Enable]. (→ page 33)

# Using the Fn Key

If you press a key for a character or symbol contained in a key while pressing the **Fn** key, the function for the character or the symbol contained in that key will be executed.

- Details of various functions → “Chapter 2: Using the Fn Key” in onscreen Reference Manual
- When using with the **Fn** key and the **Ctrl** key functions interchanged. (→ page 33)  
Press the **Ctrl** key instead of the **Fn** key for the desired Fn function. (It is not possible to replace the markings on the keys, or the keys themselves)



| Key                          | Functions  | Pop-up Window<br>(Displayed after logging on to Windows)   |
|------------------------------|--|--|
| <b>Fn+F1</b><br><b>Fn+F2</b> | LCD brightness control<br><b>Fn+F1</b> (down) / <b>Fn+F2</b> (up)  |  |
| <b>Fn+F3</b>                 | Display change (When the external display is connected)  | —  |
| <b>Fn+F4</b>                 | Speaker on/off switch  | OFF (MUTE)<br>ON   |
| <b>Fn+F5</b><br><b>Fn+F6</b> | Volume control<br><b>Fn+F5</b> (down) / <b>Fn+F6</b> (up)  |  |
| <b>Fn+F7</b>                 | Forcing the standby function   | —  |
| <b>Fn+F9</b>                 | Remaining capacity of the battery pack   | When the battery pack is inserted in the computer (example)<br>When the battery pack is not inserted in the computer |
| <b>Fn+F10</b>                | Forcing the hibernation function   | —  |
| <b>Fn+NumLk</b>              | Run the ScrLk (Scroll Lock) function<br>The functions differ depending on the application software being used. | —  |
| <b>Fn+Home</b>               | Lead to the last page or moves the cursor to the end of the current line (End)                                 | —  |

# Expanding Memory

Depending on the computer, you can expand the RAM module (sold separately). The increase in memory will improve the processing speed of Windows and other application software. (Effects may differ depending on your usage conditions.)

- Use recommended RAM module products. Do not use non-recommended RAM modules. Non-recommended RAM modules may not operate properly, and may cause damage to your computer. Some non-recommended RAM modules may overheat, causing the cover to warp. Refer to "Specifications" (→ page 72) for recommended RAM module specifications. Refer to various sources for recommended RAM module.
- Matsushita Electric Industrial Co., Ltd. will bear no responsibility whatsoever for failures or damage caused by the use of non-recommended RAM modules, or by incorrect installation or removal of such RAM modules. Before installing a RAM module, confirm the product type and the correct installation method.

## CAUTION

- RAM modules are extremely sensitive to static electricity. There are cases where static electricity generated by the human body has adversely affected such RAM modules. When inserting or removing a RAM module, do not touch the terminals or internal components, insert objects other than the module, or allow foreign particles to enter. Doing so has been known to cause damage, fire or electric shock.

## Inserting / Removing the RAM Module

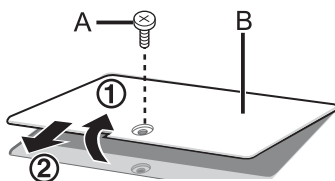
### ◆ Inserting

#### 1 Power off your computer. (→ page 24)

- Do not shut down using the standby or hibernation function.
- Disconnect the AC adaptor.

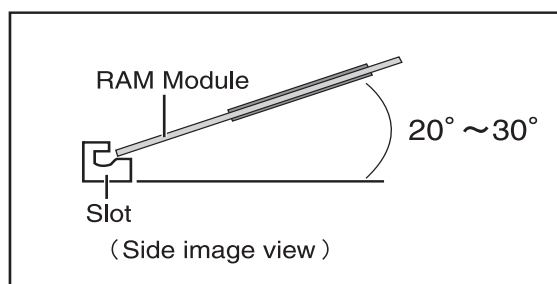
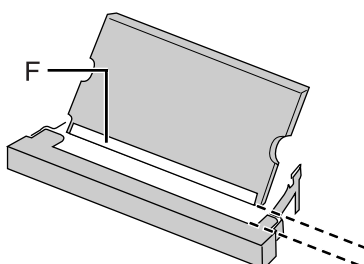
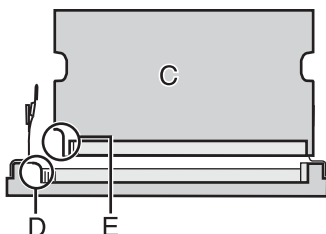
#### 2 Turn the computer over, remove the battery pack and the screw (A), then ① hold up the cover (B) and ② pull it out. (→ page 15 "L" of "Names and Functions of Parts")

- There is one screw on the cover. Do not confuse this with the cover with two screws.
- Use the proper size screw driver to insure that the screw does not get stripped.

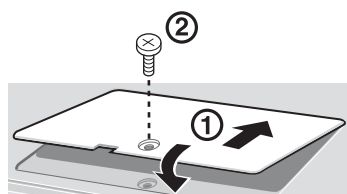
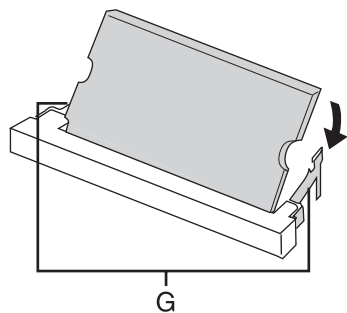
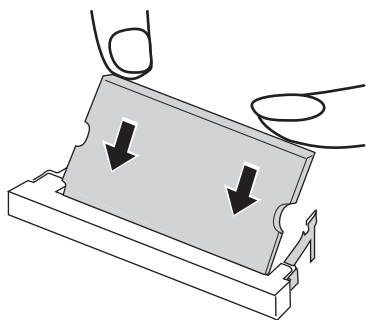


#### 3 Insert the RAM module.

- ① Check direction of a RAM module (C). Hold the RAM module in the direction that the notch (E) of the RAM module suits to the protrusion (D) of the slot.
- ② Place the RAM module lightly in parallel with a slot. (The gold terminals (F) are visible)



# Expanding Memory



- ③ Insert the module parallel to the slot and press firmly until the gold terminals are no longer visible.
  - If the RAM module is difficult to insert, do not force it. Check once more to ensure that the module is positioned correctly.
  - The slot may be damaged if the following procedure is performed without inserting the module firmly.

- ④ Press the RAM module down until the right and left hooks (G) lock into place.
  - When pressing down the module, the right and left hooks will open slightly and will return after locking.
  - If the RAM module is difficult to press down, do not force it. Check once more to ensure that the module is positioned correctly.

## 4 Put the cover back in place.

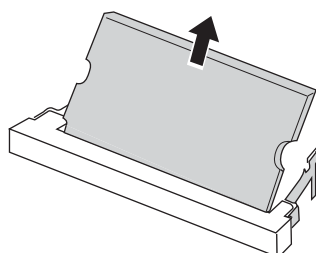
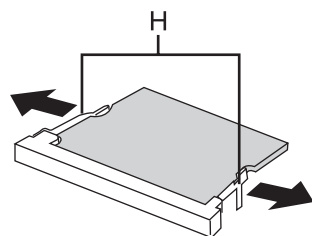
- ① Insert the cover at an angle, then fit it into place.
- ② Fasten the screw.

### NOTE

- If the RAM module has not been inserted properly, or if a RAM module other than one matching the specifications has been inserted, a beep will sound and the message “Extended RAM Module Failed” will be displayed when turning the power on. In this case, turn the power off, confirm that the RAM module meets the specifications, and reinsert it.
- Whether the RAM module is properly recognized or not can be confirmed in [Information] menu of the Setup Utility (→ page 33).

## ◆ Removing

After making the settings in step 1 to 2 of “◆Inserting,” remove the RAM module as follows.

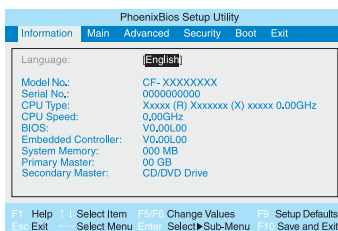
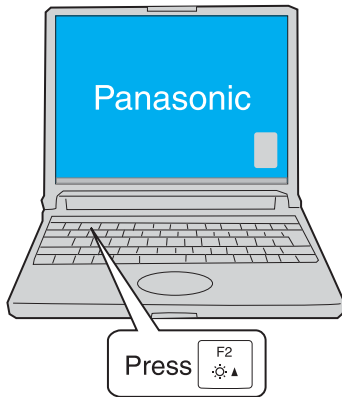


- ① Gently open the left and right hooks (H).  
The RAM module will be raised at an angle.
- ② Gently remove the RAM module from the slot.
- ③ Put the cover back in place.  
Refer to step 4 of “◆Inserting.”

# Setup Utility

The Setup Utility sets the computer's boot-up operating environment, i.e. passwords, startup drive, etc. The following six menu items are available: [Information], [Main], [Advanced], [Security], [Boot], [Exit]

## Running the Setup Utility



**1** Turn on or restart the computer.

**2** Press the **F2** key while [Panasonic] boot screen is displayed soon after the computer begins the startup procedure.

When the password is set, the screen shown at left will be displayed. Enter your password, and press the **Enter** key.

When inputting the Supervisor Password

- You can register all items of the Setup Utility.

When inputting the User Password

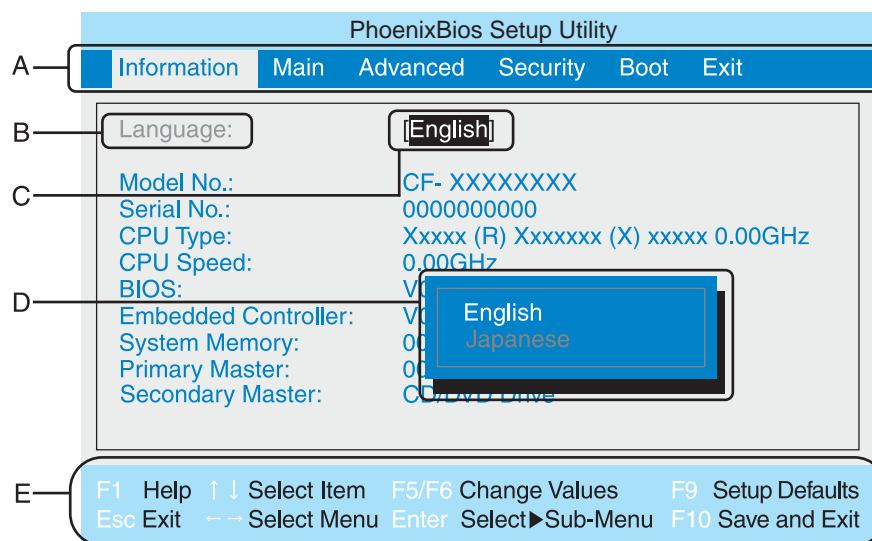
- On the [Advanced] and the [Boot] menu:
  - You can view the settings, but cannot change it.
- On the [Security] menu:
  - [Clear registered SD card], [Set Supervisor Password] and [Hard Disk Lock] will not be displayed.
  - [Password on boot], [SD Startup], [SD Setting Method], [Setup Utility Prompt], [Boot First Menu] and [User Password Protection] will be displayed, but cannot be set.
  - The User Password can be changed only when [User Password Protection] has been set to [No Protection]. The User Password cannot be deleted.
- On the [Exit] menu:
  - [Get Default Values] option will not be displayed.
- The **F9** key does not work.

### NOTE

- Cannot display the Setup Utility screen in simultaneous display. By pressing the **Fn+F3** key, display destinations can be changed either external display or the internal LCD.
- When [Password on boot] in the Setup Utility is set to [Disable]:
  - When the computer is started up, entering a password is not necessary.
  - When the Setup Utility is started up: The password becomes necessary. This alternative can prevent the contents of the Setup Utility from being changed.
- If you fail to press the **F2** key at the right moment, the Setup Utility will not start up. In this case, let the computer fully boot up, and then perform a shutdown or restart from Windows.
- To close the Setup Utility:
  - ① Press the **Esc** key.
  - ② Select the exiting method from the [Exit] menu and press the **Enter** key.
  - ③ Select [Yes] and then press the **Enter** key.

# Setup Utility

## How to use the screen



- You can select menu items by moving the cursor with the **←** key and the **→** key.
- If there are several selectable items, you can choose the desired item by pressing the **↑** key and the **↓** key. The color of the selected item will change.
- You can display the submenu by pressing the **Enter** key on the item shown in reverse display.
- When the submenu is displayed, you can select items by pressing the **↑** key and the **↓** key.
- The keys that can be used for settings are displayed in the Setup Utility screen.

## Key Operations

- **F1**  
To display the corresponding "help" file (Press the **↑** key or the **↓** key to display next help page or previous help page. Press the **F1** key to return to the original screen.)
- **Esc**  
To display the [Exit] menu
- **↑**  
**↓**  
To move among the items (Use these keys when selecting the item.)
- **←**  
**→**  
To move among the menus (Use these keys when the [Information], [Main], [Advanced], [Security], [Boot], or [Exit] menu is selected.)
- **F5**  
Select previous item (Use this key when changing setting values.)
- **F6**  
Select next item (Use this key when changing setting values.)
- **Enter**  
To display submenu of each item (Use this key after selecting the item by using the **↑** key or the **↓** key. Close the submenu by using the **Esc** key.)
- **F9**  
To set default settings (except the password, System Time and System Date.)
- **F10**  
To save the settings and exit



## Information Menu

(An underline indicates the factory default settings)

|  |  |
|--|--|
| Language <ul style="list-style-type: none"> <li>Select the language for displaying the Setup Utility.</li> </ul>   | English<br>Japanese  |
| Model No.<br>Serial No.<br>CPU Type<br>CPU Speed<br>BIOS<br>Embedded Controller<br>System Memory<br>Primary Master   | To display and confirm information. These items cannot be selected or changed. |
| Secondary Master <ul style="list-style-type: none"> <li>When [CD/DVD Drive Power] has been set to [Off] in [Main] menu, [Power Off] is displayed.</li> </ul> |  |

## Main Menu

(An underline indicates the factory default settings)

|   |   |
|---|---|
| System Time <ul style="list-style-type: none"> <li>Time is shown in 24-hr. style.</li> <li>The <b>Tab</b> key can be used to move hour/minute/second. Numerical values can be adjusted using the <b>F5</b> key and the <b>F6</b> key.</li> </ul>  | [xx:xx:xx]                              |
| System Date <ul style="list-style-type: none"> <li>Date is shown in order of Month/Day/Year.</li> <li>The <b>Tab</b> key can be used to move Month/Day/Year. Numerical values can be adjusted using the <b>F5</b> key and the <b>F6</b> key.</li> </ul>   | [xx/xx/xxxx]                            |
| Touch Pad <ul style="list-style-type: none"> <li>Select whether to use the touch pad ([Enable]) or not ([Disable]).</li> </ul>  | Disable<br><u>Enable</u>                |
| Fn/Ctrl Key <ul style="list-style-type: none"> <li>Select whether to switch the <b>Fn</b> key with the <b>Ctrl</b> key functions, and vice versa on the internal keyboard.</li> <li>Do not attempt to replace the markings on the keys, or the keys themselves.</li> </ul>  | <u>Normal</u><br>Replace                |
| Display <ul style="list-style-type: none"> <li>The display destination in cases where Windows is not running is set here.</li> <li>If an external display is not connected, all information will appear on the internal LCD even if [External Monitor] is selected.</li> </ul> <p>After Windows starts up, the screen is displayed on the display destination set in the following menu.<br/>[start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics] - [Devices]</p>  | <u>External Monitor</u><br>Internal LCD |
| Display Expansion <ul style="list-style-type: none"> <li>Select whether to have the display expanded when not using the native screen resolution.</li> </ul>  | Disable<br><u>Enable</u>                |
| CD/DVD Drive Power <ul style="list-style-type: none"> <li>You can set the drive power to [On] or [Off] when the computer is started up.</li> <li>When set to [Off]. <ul style="list-style-type: none"> <li>The next time the computer is started up, you will not be able to boot from the DVD-ROM &amp; CD-R/RW drive. The disk cover cannot be opened until Windows has started. To boot from the DVD-ROM &amp; CD-R/RW drive (give priority to CD/DVD drive in [Boot] menu), set this to [On].</li> <li>If operations are resumed from hibernation mode while a disk is set, it may take about 20 seconds for operations to resume.</li> </ul> </li> </ul> | Off<br><u>On</u>                        |

# Setup Utility

(An underline indicates the factory default settings)

|   |                    |
|---|--------------------|
| <b>CD/DVD Drive Speed</b> <ul style="list-style-type: none"> <li>Select whether to set the DVD-ROM &amp; CD-R/RW drive speed to fast ([High]) or slow ([Low]).</li> </ul> | <u>High</u><br>Low |
|---|--------------------|

## Advanced Menu

### NOTE

- The [Advanced] menu cannot be changed when the Setup Utility is started up with the User Password.

(An underline indicates the factory default settings)

|  |                          |
|--|--------------------------|
| <b>Modem</b> <ul style="list-style-type: none"> <li>Select whether to use the internal modem function ([Enable]) or not ([Disable]). (This does not work for the external modem.)</li> </ul>   | Disable<br><u>Enable</u> |
| <b>LAN</b> <ul style="list-style-type: none"> <li>Select whether to use the internal LAN function ([Enable]) or not ([Disable]). (This does not work for the external LAN card.)</li> </ul>  | Disable<br><u>Enable</u> |
| <b>Boot up from LAN</b> <ul style="list-style-type: none"> <li>Select whether to use the function starting the computer from a LAN server ([Enable]) or not ([Disable]).</li> <li>This can be set only when [LAN] is set to [Enable]. (This function works only for the internal LAN. This does not work for an internal wireless LAN and external LAN card.)</li> </ul> | Disable<br><u>Enable</u> |
| <b>Wireless LAN</b> <ul style="list-style-type: none"> <li>Select whether to use the internal wireless LAN function ([Enable]) or not ([Disable]). (This does not work for the external wireless LAN card.)</li> </ul>   | Disable<br><u>Enable</u> |
| <b>Legacy USB Support</b> <ul style="list-style-type: none"> <li>Select whether to use the function that makes the computer recognize USB keyboard and USB floppy disk ([Enable]) or not ([Disable]) before starting Windows.</li> </ul>   | Disable<br><u>Enable</u> |

# Security Menu

## NOTE

- When the Setup Utility is started up with the User Password:
  - [Clear registered SD card], [Set Supervisor Password] and [Hard Disk Lock] will not be displayed.
  - [Password on boot], [SD Startup], [SD Setting Method], [Setup Utility Prompt], [Boot First Menu] and [User Password Protection] will be displayed, but cannot be set.
  - The User Password can be changed only when [User Password Protection] has been set to [No Protection]. The User Password cannot be deleted.
  - [SD Startup], [SD Setting Method] and [Clear registered SD card] will be displayed only when an SD memory Card has been registered. (→“Chapter 4: SD Memory Card Security Function” in onscreen Reference Manual)

(An underline indicates the factory default settings)

|   |                                   |
|---|-----------------------------------|
| <b>Password on boot</b> <ul style="list-style-type: none"> <li>• Select whether you will need to input ([Enable]) or not ([Disable]) the Supervisor Password or the User Password on booting.</li> </ul>  | Disable<br><u>Enable</u>          |
| <b>SD Startup</b> <ul style="list-style-type: none"> <li>• Select whether to use an SD memory card instead of entering the password on booting ([Enable]) or not ([Disable]).</li> <li>• When registered SD memory card, this is set to [Enable].</li> <li>• Cannot be set when [Password on boot] is set to [Disable].</li> </ul>  | <u>Disable</u><br>Enable          |
| <b>SD Setting Method</b> <ul style="list-style-type: none"> <li>• Select whether to set an SD memory card to [Leave Set] or [Set and Eject] when an SD memory card is used instead of entering the password.</li> <li>• This can be set only if [SD Startup] has been set to [Enable].</li> <li>• Cannot be set when [Password on boot] is set to [Disable].</li> </ul>   | <u>Leave Set</u><br>Set and Eject |
| <b>Clear registered SD card</b> <ul style="list-style-type: none"> <li>• Clear the registration from all registered SD memory cards not to be used instead of entering the password on booting.</li> </ul>  | To the sub-menu                   |
| <b>Set Supervisor Password</b> <ul style="list-style-type: none"> <li>• Set a Supervisor Password if you wish to prevent any unauthorized changes to the Setup Utility settings, also if you require a password on boot, set [Password on boot] to [Enable] after you set Supervisor Password.</li> </ul>   | To the sub-menu                   |
| <b>Setup Utility Prompt</b> <ul style="list-style-type: none"> <li>• Select whether to display ([Enable]) or not to display ([Disable]) the message “Press F2 for Setup/F12 for LAN” shown on the bottom of the [Panasonic] boot screen that is displayed after starting this computer.</li> </ul>  | Disable<br><u>Enable</u>          |
| <b>Boot First Menu</b> <ul style="list-style-type: none"> <li>• Select whether to display “Boot Menu” ([Enable]) or not ([Disable]). (→ page 36).</li> </ul>  | Disable<br><u>Enable</u>          |
| <b>Hard Disk Lock</b> <ul style="list-style-type: none"> <li>• Select whether enable ([Enable]) or disable ([Disable]) the hard disk lock.</li> <li>• This function will not work without the Supervisor Password being set.</li> </ul>   | <u>Disable</u><br>Enable          |
| <b>User Password Protection</b> <ul style="list-style-type: none"> <li>• Select whether to permit changing the User Password ([Protected]) or not ([No Protection]).</li> </ul>   | <u>No Protection</u><br>Protected |
| <b>Set User Password</b> <ul style="list-style-type: none"> <li>• Set User Password when multiple users use this computer, etc.<br/>For example, when the system administrator sets Supervisor Password and User Password and lets other users know only the User Password, other users cannot change some of the settings in Setup Utility.</li> <li>• This function will not work without the Supervisor Password being set.</li> </ul> | To the sub-menu                   |

## Boot Menu

Set priorities (displayed in order from top to bottom) for devices that start up the operating system.

To move a device up by one in the order, select the device with the **↑** key and the **↓** key, and then press the **F6** key.

To move a device down by one in the order, select the device with the **↑** key and the **↓** key, and then press the **F5** key.

- Panasonic USB floppy disk drive (CF-VFDU03 (optional)) can be used for startup (recommended).

```
+Floppy Drive *1*2
+Hard Disk Drive *2
  CD/DVD Drive
  LAN
```

\*1 A "+" will not be displayed if a floppy disk drive is not connected.

\*2 When you select an item with a "+" display and press the **Enter** key, the name of the connected device (including internal devices) will be displayed. (Press the **Enter** key once more to return the display to its original condition.)

Press the **Ctrl + Enter** key to display the names of both the floppy disk drive and the hard disk drive.

### NOTE

- When [CD/DVD Drive Power] is set to [Off] in [Main] menu, startup cannot be executed from DVD-ROM & CD-R/RW drive (item name CD/DVD drive). The disk cover cannot be opened until Windows has started.
- The [Boot] menu cannot be changed when the Setup Utility is started up with the User Password.
- **Boot Menu**  
The device for starting up the operating system can also be selected during computer start-up. After the computer is turned on and the **Esc** key is pressed at [Panasonic] boot screen, [Boot Menu] (the device selection screen) will appear. When the [Boot] menu setting is changed, the selection screen display will also change. [Boot Menu] is displayed only when [Boot First Menu] in the [Security] menu is set to [Enable].

## Exit Menu

|  |   |
|--|---|
| Save Values & Exit   | Exit the Setup Utility and save your changes to CMOS.   |
| Exit Without Saving Changes  | Exit the Setup Utility without saving your changes to CMOS.   |
| Get Default Values <ul style="list-style-type: none"><li>• This item is not displayed when starting up the Setup Utility with the User Password.</li></ul> | Set the Setup Utility to the default settings.  |
| Load Previous Values   | Load previous values from CMOS for all Setup items.   |
| Save Current Values  | Save your changes to CMOS.  |
| Battery Recalibration  | To accurately display remaining battery capacity, fully charge the battery pack, then fully discharge it. (→ "Chapter 2: Battery Power" in onscreen Reference Manual)             |
| Hard Disk Backup / Restore   | Backup data to a backup area in the hard disk. Also, restore backed up data to the original hard disk. Before executing, be sure to read "Hard Disk Backup Function" (→ page 64). |

# Usage / Handling / Maintenance

## Usage Environment



- Place the computer on a flat stable surface.  
Do not place the computer to tip over. When the computer receives extremely strong shock after disk may become inoperable.
- Operation: Temperature: 5°C to 35°C {41°F to 95°F}  
Humidity: 30% to 80% RH (No condensation)
- Storage: Temperature: -20°C to 60°C {-4°F to 140°F}  
Humidity: 30% to 90% RH (No condensation)
- Even within the temperature and humidity ranges noted above, using the computer for long periods of time in an environment with exceptionally low or high temperatures or high humidity may result in deterioration of the product, which can lead to a reduction in product life.
- Keep the computer clear of electromagnetic cards and objects that emit electromagnetic waves.
  - Do not place the computer near magnets, electromagnetic bracelets, or other magnetic fields.
  - This computer uses a magnet in the position marked with a circle in the diagram on the left. Do not place a magnetic card or other magnetic field in contact with the computer.

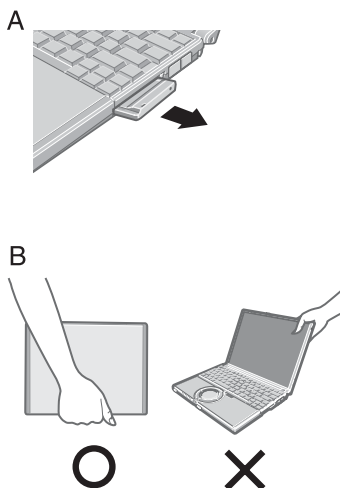
## Handling

### ◆ We recommend the following:

- Preparing a spare battery pack (sold separately).
- Making backup copies on SD memory cards, etc. and if necessary, carrying them with you.

### ◆ When Carrying the computer, be sure to keep to the following:

- Turn off the computer.
- Remove all external devices, cables, PC Cards protruding from the computer (see figure A), SD memory cards, and MultiMedia Cards before transporting the computer.
- Close the display, and ensure that the latch (→ page 14) is positioned correctly in the slot.
- Do not carry the computer by gripping the display or the cabinet around the display (see figure B).
- Do not drop or hit the computer against solid objects.
- When taking an airplane
  - Always carry your computer and disks, etc with you. Never check it in with luggage.
  - Before using the computer inside an airplane, we recommend asking the airlines regarding their policy on this issue.
- When transporting a spare battery pack (sold separately) inside a package, briefcase, etc., it is recommended that it be placed in a plastic bag in order to protect its contacts.
- If the computer is being carried in a soft bag when the battery pack has been removed, be careful to avoid undue pressure on the body of the computer in a crowded place, etc., as this may result in damage to the LCD.



Useful Information

## Maintenance

- Care of the display / touch pad:  
Wipe lightly with a gauze or other dry, soft cloth.
- When the touch pad or other area other than the screen becomes dirty: wet a soft cloth with water or a diluted kitchen cleanser (neutral), wring the cloth out thoroughly, and wipe the dirty area gently. Using a detergent other than a neutral

kitchen cleanser (e.g., a weak alkali cleanser) may adversely affect painted surfaces.

---

**CAUTION**

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- Do not use benzene, thinner, or rubbing alcohol. Doing so may adversely affect the surface, e.g., discoloration. In addition, do not use commercially-available household cleaners and cosmetics, as they may contain components harmful to the surface.
  - Do not directly add or spray water or detergent onto the computer. If liquid enters the inside of the computer, it may cause it to work improperly or be damaged.
-





# Wireless LAN

For instructions on settings for wireless LAN and cautions during use, click [start] - [Reference Manual], and refer to “Chapter 5: Wireless LAN” in onscreen Reference Manual.

## About Turning On/Off the Wireless LAN

- Before using a wireless LAN, turn it on using Intel® PROSet/Wireless Software.



### ◆ Turning on/off the Wireless LAN

**1** Double-click the  icon / the  icon / the  icon (when the wireless LAN is on) or the  icon (when the wireless LAN is off) on the notification area or click [start] - [All Programs] - [Intel PROSet Wireless] - [Intel PROSet Wireless].

**2** Click ▼ and click [Wireless On] or [Wireless Off].

### ◆ Enable/disable wireless LAN standard IEEE802.11a (802.11a)

In some countries, communication using IEEE802.11a (5 GHz wireless LAN) standard is restricted by law. Comply with the laws in the country concerned. (→ page 3)

**1** Click the  icon (when the wireless LAN is on) or the  icon (when the wireless LAN is off) on the notification area.

**2** To disable 802.11a:  
• Click [Disable 802.11a].  
To enable 802.11a:  
• Click [Enable 802.11a].

Even when 802.11a is enabled or disabled,  or  will not change.

◆ Do not use the wireless LAN on airplanes, in hospitals, or in other locations where wireless LAN signals may affect the operation of devices in the vicinity.

Abide by instructions regarding use in airplanes and hospitals.



# Windows/Antivirus Protection

## Windows

Depending on the settings in Windows, installed applications, drivers, menus and other displays may be inoperable.

In some cases, certain functions, such as the password reset disk (→ page 21), may not operate. In this case, refer to the items below, and the applied items from the problem-solving section of this manual and onscreen Reference Manual, Windows Help (→ page 12), and the software application and driver's operating instructions, etc.

## Change the Way Users Log on or off

If the check mark is added for [Use the Welcome screen] or [Use Fast User Switching] in [start] - [Control Panel] - [User Accounts] - [Change the way users log on or off], the operation differs as follows.

### ◆ Use the Welcome screen

The operations when starting up or shutting down Windows differ depending on whether this item has a check mark or not.

- At the time of purchase, it is set with the check mark added (when using).
- When [Use when logging on to Windows] is set in [SD Card Setup] (→ "Chapter 4: SD Memory Card Security Function" in the onscreen Reference Manual), the Welcome screen cannot be used.

### ◆ Use Fast User Switching



When adding the check mark for this setting, you can change to another user without logging on again when multiple users use the computer.

This manual explains the procedure for cases where the check mark is added.

In the following case, Fast User Switching cannot be used.

- When the check mark is not added for [Use the Welcome screen]
- When joining the network domain
- When the [Use when logging on to Windows] is set in [SD Card Setup] (→ "Chapter 4: SD Memory Card Security Function" in the onscreen Reference Manual)

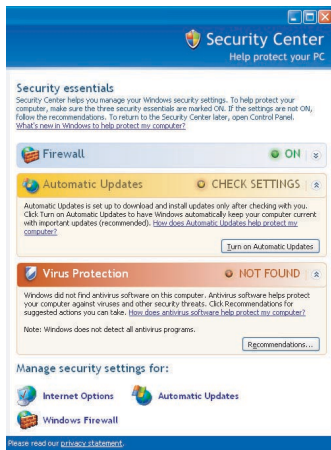
Depending on the software application, the computer may not work properly if this function is used.

When switching to a different user with the Fast User Switching function, it may not be possible to set the display settings. In this case, log-off all users, and retry the operation.

## Security Center/Antivirus Protection

Use the Windows Security Center function to protect Windows from damage by computer viruses, etc.

### Windows Security Center

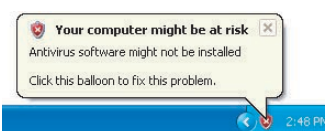



- **What is Windows Security Center?**  
The Windows Security Center allows centralized management of Windows security information, and monitors antivirus measures and other Windows security settings to ensure optimum safety.  
Use the Windows Security Center function to protect your computer from damage by viruses, etc.  
Click [start] - [Control Panel] - [Security Center] to display the current settings for the following security functions.
- **Windows Firewall**  
A security system for protecting the computer from unauthorized access via the Internet or other external networks.  
The firewall regulates the data exchanged between the computer and the external network, so that only approved data can pass through.  
At the time of purchase, the Windows Firewall is set to be enabled.
- **Automatic Updates**  
If your computer is connected to the Internet, this function regularly checks whether security updates and other important updates for Windows have been made available, and automatically installs these updates in their latest conditions.
- **Virus Protection**  
This function regularly checks whether antivirus software has been installed in the computer, and whether the version of that software is the latest version available.

#### NOTE

- Some network-related software and some online network games do not operate normally if the Windows Firewall is enabled. Ask the software manufacturer about the Windows Firewall in the case of using such software.
- For further details on the Windows Firewall, see the help displayed by the following methods:
  - ① Click [start] - [Help and Support] and input [Windows Firewall] into [Search].
  - ② Click [Windows Firewall overview].

### If the message "Your computer might be at risk" is displayed



Read the message, click the  (red) on the notification area, and make the appropriate settings.

This message, which the Windows Security Center displays to confirm the security-related settings regularly, will be displayed until the settings are made more properly.

#### NOTE

- This message does not indicate an error. You can use the computer while the message is displayed. However, in order to operate the computer more safely, we recommend making the appropriate measures to reduce damage from virus and other attacks, thus avoiding the appearance of this message.

## The Pop-up Blocker

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In Windows XP, security functions have been strengthened with regard to Web contents.

One of these is the "Pop-up Blocker," which may prevent some Web pages from being displayed.

## Computer Viruses

---

**Users are advised to purchase the latest versions of virus protection software and use them regularly.**

We recommend you run the software:

- When booting your computer.
- After receiving data.

We recommend that you check data received on disks or from external sources, such as data downloaded from the Internet, e-mail, etc. (For compressed files, uncompress them before running a check).

## Windows Update

---

You can use the latest patches and service packs for Windows with the following menus.

**Do not apply "Driver Updates" even if a message to update a driver appears. If a driver update is required, contact your technical support office.**


[start] - [All programs] - [Windows Update].

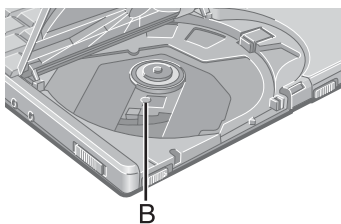
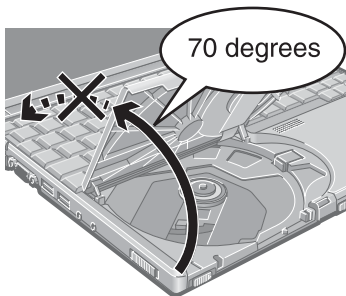
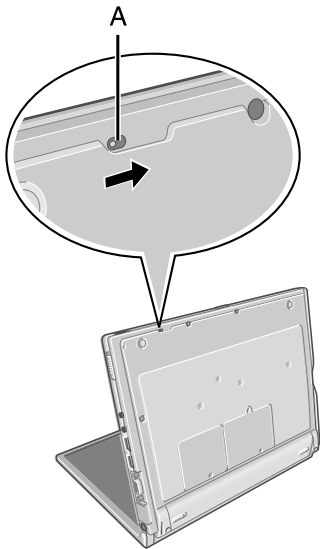
# Using CD/DVD

## ◆ Before using the drive

- Do not expose the DVD-ROM & CD-R/RW drive to excessive smoke that may leave a residue, e.g. oil smoke, or tobacco smoke. Doing so could shorten the life of the drive lens.

## ◆ About opening or closing the disk cover/cleaning the drive lens

- When the computer is on, be sure to use the open lever on the left side of the computer or perform the ejecting operation through Windows. When using B's Recorder or B's CLiP, you cannot open the cover using the open lever. Refer to "Chapter 3: Writing to CDs (B's Recorder/B's CLiP)" in onscreen Reference Manual
- To remove a disk when the disk cover cannot be opened or when the computer is powered off, insert a pointed object (e.g., the bent-out tip of a paper clip, or the tip of a ballpoint pen) into the emergency hole (A), and move in the direction of the arrow.
- Be careful not to do any of the following when the disk cover is open:
  - Do not close the display. Be sure to close the display only after confirming the disk cover is closed. If the disk cover is open, the LCD may become damaged.
  - Never insert foreign objects such as paper clips into the DVD-ROM & CD-R/RW drive. This could cause it to malfunction.
- The disk cover can be opened up to an angle of 70 degrees. Do not force the cover open any further. If a hand or other object touches the disk cover and accidentally opens it wider than 70 degrees, pull it forward slowly until the stopper holds the cover in its proper position.
- Do not leave the disk cover in the open position or touch the lens. Over time, dust may build up on the lens, or on a disk. This may result in a read or write malfunction.
- Insert the disk securely. If the disk cover is closed without inserting the disk securely, it may become damaged.
- Do not access the drive until after the disk cover is closed and the DVD-ROM & CD-R/RW drive status indicator  is off.
- We recommend cleaning the drive lens (B) with an air puffer used for camera lenses (Do not use any spray lens cleaning products.)



## ◆ While the DVD-ROM & CD-R/RW drive is being accessed

- Do not open the DVD-ROM & CD-R/RW drive or move the computer while the DVD-ROM & CD-R/RW drive is being accessed. Doing so could cause the disk to shift position, which may damage the disk, or cause the DVD-ROM & CD-R/RW drive to malfunction. After running an application involving access to a disk, do not open the DVD-ROM & CD-R/RW drive until after the application has been closed.
- Do not apply excessive force on the disk cover.
- Do not operate the open lever.
- Do not shock the computer by removing or inserting cables and cards, etc. This may result in a read or write malfunction.

## ◆ About recognition of media

- It may take about 30 - 40 seconds for an image recorded to a rewritable media to be played back.

# Use of Peripheral Devices/Internal Hard Disk

## When Using Peripheral Devices

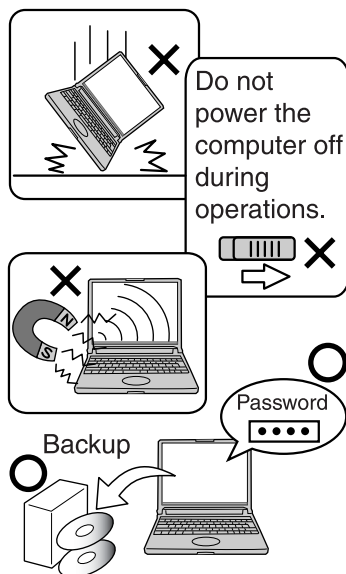
Pay strict attention to the following points to avoid damage to the computer, peripheral devices, cables, etc.

Also, in addition to following this manual and the onscreen Reference Manual, carefully read the instruction manuals for the peripheral devices being used.


- Use only peripheral devices that conform to the computer's specifications.
- Connect the devices properly, paying close attention to the condition and position of the connectors.
- If a connection cannot be made easily, do not apply undue force; check once more to confirm the condition and position of the connector (alignment of pins, etc.).
- If the connector has holding screws, fasten the screws firmly.
- Do not carry the computer with cables attached, and do not pull on the cables forcefully.

## Internal Hard Disk

### To Protect Data



Keep the following.

- **Do not expose your computer to shock.**  
Use care when handling your computer, shock may damage your hard disk or make your software applications and data unusable.
- **Do not power off your computer while software applications are running or hard disk drive indicator  is on.**  
Properly shut Windows down from the [start] menu to avoid problems. (→ page 24)
- **Do not place the Computer close to objects that emit electromagnetic waves (magnets, electromagnetic bracelets, etc.).**  
The data saved on the hard disk may be erased.
- **Important data saved on the hard disk should be saved regularly (e.g., in case of failures, unexpected data updates, erasure, etc.).**  
Regular backups are recommended as a means of minimizing damages in the event of trouble.
- **Use the security function for all important data.**  
(→ "Chapter 2: Security Measures" and "Chapter 4: SD Memory Card Security Function" in onscreen Reference Manual)

### When Changing Hard Disk Partitions

- During reinstallation, you can divide the hard disk space into two partitions by executing: [Make two partitions, for the operating system and data, and reinstall Windows to the operating system partition].

Confirm the minimum partition size required for the OS by checking the screen during the reinstallation.

If you want to create three or more partitions, after creating an OS partition and a data partition during the reinstallation, start up Windows, erase the second partition once using [Disk Management], and then create the partitions in the open space.

# When Disposing of This Computer

When disposing of or transferring ownership of this computer, erase all data on the hard disk in order to prevent the theft of hard disk data. Even if you delete data or initialize the hard disk through normal Windows commands, data can still be read using special software. In order to erase all data, either have the data erased by a specialist (at a charge) or use the hard disk data erase utility (included). (Note that this hard disk data erase utility does not guarantee that data will be completely erased.)

Also, note that if you transfer ownership of this computer without deleting commercial software that you have installed to the hard disk, you may be in violation of the licensing agreement for that software.

# List of Error Codes

When turning on the computer, if one of the following error codes or messages is displayed, follow the instructions shown below.

If the problem persists, or if the error code or message displayed is not shown here, contact your technical support office.

| Error Code/Message  | Action   |
|---|--|
| 0211: Keyboard error  | <ul style="list-style-type: none"> <li>● If an external keyboard is connected, disconnect these devices.</li> </ul>  |
| 0251: System CMOS checksum bad - Default configuration used | <p>An error has occurred in the memory that stores the Setup Utility settings. This error occurs when the memory content is changed through some inadvertent operation by a program or other function.</p> <ul style="list-style-type: none"> <li>● Run the Setup Utility and load the default values, then change the settings to the appropriate values as needed. (→ page 31)</li> <li>● If the problem persists, the internal clock battery may need to be replaced. Contact your technical support office.</li> </ul>   |
| 0271: Check date and time settings                          | <p>The date and time setting are incorrect.</p> <ul style="list-style-type: none"> <li>● Set the date and time correctly in the [Main] menu of the Setup Utility. (→ page 33)</li> <li>● If the problem persists, the internal clock battery may need to be replaced. Contact your technical support office.</li> </ul>  |
| 0280: Previous boot incomplete - Default configuration used | <p>Startup has failed repeatedly, so the Setup Utility settings have been returned to their default values, and the computer has been booted.</p> <ul style="list-style-type: none"> <li>● Run the Setup Utility and load the default values, then change the settings to the appropriate values as needed. (→ page 31)</li> </ul>   |
| Press <F2> to Setup   | <ul style="list-style-type: none"> <li>● Write down the error details and press the <b>F2</b> key to run the Setup Utility. Confirm the settings, and change the settings to the appropriate values as needed. (→ page 31)</li> </ul>  |
| Operating System not found                                  | <p>The OS is not properly installed on the floppy disk or the hard disk that you are trying to boot from.</p> <ul style="list-style-type: none"> <li>● If the computer cannot be booted from the floppy disk, check the floppy disk drive to ensure that the disk is in fact bootable, and change it to another if not.</li> <li>● If the computer cannot be booted from the hard disk, confirm whether the hard disk is properly recognized in the [Information] menu of the Setup Utility. (→ page 33) <ul style="list-style-type: none"> <li>• If the hard disk is recognized (“xx GB” is displayed), perform the reinstallation procedure.</li> <li>• If the hard disk is not recognized (“none” is displayed), contact your technical support office.</li> </ul> </li> <li>● If a device is connected to the USB port, disconnect the device, or run the Setup Utility and set [Legacy USB Support] in the [Advanced] menu to [Disable]. (→ page 34)</li> </ul> |
| Extended RAM Module Failed                                  | <ul style="list-style-type: none"> <li>● If the RAM module has not been inserted properly, or if a RAM module other than one matching the specifications has been inserted, a beep will sound and the message “Extended RAM Module Failed” will be displayed when turning the power on. In this case, turn the power off, confirm that the RAM module meets the specifications, and reinsert it.</li> </ul>  |

# Dealing with Problems (Summary)

If you encounter a problem, try the following methods.

- Windows Setup: → below
- Starting up: → below
- Enter Password: → page 49
- Display: → page 50
- Setup Utility: → page 51
- Shutting Down: → page 51
- Standby/Hibernation Functions: → page 51
- Battery Indicator: → page 52
- Onscreen Reference Manual: → page 52
- Disk Operations: → page 52
- Reinstalling B's Recorder/B's CLiP: → page 53
- SD Card Setup (SD Memory Card security function): → page 53
- Fast User Switching Function: → page 53
- Wireless LAN: → page 53
- Expanding Memory: → page 53
- Other Problems: → page 54

You can use the PC Information Viewer to check the computer's usage status. (→ page 55)

## ◆ Windows Setup

|  |   |
|--|---|
| During Windows setup, the process does not move to the next screen | <ul style="list-style-type: none"> <li>● Sometimes it takes time to move to the next screen. Also, it may take two to three minutes while the computer moves to the next screen from the [Date and time settings] screen, and then restarts automatically. Wait, and do not press any keys, or touch the touch pad, etc. (→ page 19)</li> </ul> |
|--|---|

## ◆ Starting Up

|  |  |
|--|--|
| The power indicator or battery indicator is not lit          | <ul style="list-style-type: none"> <li>● Check the cable connection for the AC adaptor.</li> <li>● Check to see if a fully charged battery is properly inserted</li> <li>● Remove the battery pack and disconnect the AC adaptor. Then reconnect them.</li> </ul>  |
| The computer does not operate when a USB device is connected | <ul style="list-style-type: none"> <li>● The computer may not operate when certain USB devices are connected. Disconnect the USB device, or set [Legacy USB Support] to [Disable] in [Advanced] menu of the Setup Utility (→ page 34).</li> </ul>  |
| [Enter Password] is displayed                                | <ul style="list-style-type: none"> <li>● Enter your Supervisor Password or User Password. If you have forgotten your password, contact your technical support office.</li> </ul>   |
| POST Startup Error(s) are displayed                          | → page 47  |
| Windows startup, or an operation is extremely slow           | <ul style="list-style-type: none"> <li>● Press the <b>F9</b> key in the Setup Utility (→ page 31). This will restore the Setup Utility's settings to their default values (except for the password, System Date and System Time). The Setup Utility must be run once again for you to input the appropriate operating environment settings. (The processing speed depends on the application software used, so this operation may not cause the processing speed to increase.)</li> <li>● If operations slow down during streaming playback, try changing the number of colors of the display.</li> <li>● If you install resident software after purchasing this computer, disable the resident software.</li> </ul> |
| The date and time are incorrect                              | <ul style="list-style-type: none"> <li>● You can set the date and time using the following menu: [start] - [Control Panel] - [Date, Time, Language, and Regional Options] - [Date and Time]</li> <li>● If you continue to experience problems, the internal battery maintaining the clock may need to be replaced. Contact your technical support office.</li> <li>● When the computer is connected to a LAN, confirm the date and time of the server.</li> <li>● This computer will not correctly recognize the date and time starting from the year 2100 A.D.</li> </ul>   |



## ◆ Starting Up

|  |  |
|--|--|
| <p>When resuming from the standby or hibernation mode, [Enter Password] does not appear even if a password has been set in the Setup Utility</p> | <ul style="list-style-type: none"> <li>● Even when a password has been set in the [Security] menu of the Setup Utility, [Enter Password] does not appear when the computer resumes from the standby or hibernation mode. Use the Windows password as follows:             <ol style="list-style-type: none"> <li>① Click [start] - [Control Panel] - [User Accounts] and click the account for which the password will be set.</li> <li>② Add the check mark for [Prompt for password when computer resumes from standby] in [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].</li> </ol> </li> </ul>  |
| <p>When the administrator password is forgotten</p>  | <ul style="list-style-type: none"> <li>● If you have created a password reset disk (→ page 21), a message is displayed when you fail to correctly enter the password. Follow the message's instructions and set the password again by using the password reset disk. If you have not created a password reset disk, after reinstalling setup Windows and then set the password again.</li> </ul>   |
| <p>When "Remove disks or other media. Press any key to restart" (or a similar message) is displayed</p>  | <ul style="list-style-type: none"> <li>● This means a floppy disk that does not contain system startup information has been left in the floppy disk drive. Remove the floppy disk, and press any key.</li> <li>● This message may appear when certain USB devices are connected. Remove the USB device, or set [Legacy USB Support] in the [Advanced] menu of the Setup Utility to [Disable].</li> <li>● If the message still appears even after trying the above measures, this may be an indication that some type of hard disk failure has occurred. Contact your technical support office.</li> </ul>  |
| <p>When the previous items are not the cause</p>   | <ul style="list-style-type: none"> <li>● Press the <b>F9</b> key in the Setup Utility. This will restore the Setup Utility's settings to their default values (except the password settings).</li> <li>● Try removing all peripheral devices.</li> <li>● Check a disk error using the following procedure:             <ol style="list-style-type: none"> <li>① Display [Local Disk (C:) Properties].<br/>Click [start] - [My Computer], right-click [Local Disk(C:)] and click [Properties].</li> <li>② Click [Tools] - [Check Now].</li> <li>③ Click [Start] after selecting required items in [Check disk options].</li> </ol> </li> <li>● At startup, hold down the <b>F8</b> key when [Panasonic] boot screen disappears<sup>*1</sup>, and release your finger when the Windows Advanced Option Menu is displayed. Start the computer in Safe Mode, and confirm the details of the error.</li> </ul> <p><sup>*1</sup> When [Password on boot] is set to [Enable], [Enter Password] appears after the [Panasonic] boot screen disappears. Hold down the <b>F8</b> key soon after inputting the password and pressing the <b>Enter</b> key.</p> |

## ◆ Enter Password


|  |  |
|--|--|
| <p>Even after entering the password, [Type your password] is displayed again</p> | <ul style="list-style-type: none"> <li>● The computer may be in "ten-key" mode.<br/>If <b>NumLk</b> lights up, press the <b>NumLk</b> key to disable the ten-key mode, and then input (→ page 16).</li> <li>● The computer may be in Caps Lock mode.<br/>If <b>Caps Lock</b> lights up, press the <b>Caps Lock</b> key to disable the Caps Lock mode, and then input (→ page 16).</li> </ul> |
|--|--|

# Dealing with Problems (Summary)

## ◆ Display

|  |   |
|--|---|
| <p>No display after powering on</p>  | <ul style="list-style-type: none"> <li>● When the external display is not visible             <ul style="list-style-type: none"> <li>• Check your cable connection to the external display</li> <li>• Confirm that your display is powered on</li> <li>• Check the settings for your external display</li> </ul> </li> <li>● The display destination may be set to the external display. Try changing the display destination by pressing the <b>Fn+F3</b> key. If you want to switch the display destination repeatedly by pressing the <b>Fn + F3</b> key, make sure that the display destination has switched completely each time before pressing the <b>Fn+F3</b> key again.</li> <li>● Press the <b>Fn+F2</b> key and adjust the brightness.</li> </ul> |
| <p>The power has not been turned off, but after a certain period of time, there is no display</p>  | <ul style="list-style-type: none"> <li>● Has the computer been set to the power-saving mode? To resume operation of your computer when the display's power is off (for energy conservation purposes), press any key unrelated to the direct triggering of a selection, like the <b>Ctrl</b> key.</li> <li>● To save power, your computer may have automatically entered the standby mode (the power indicator blinks green) or hibernation mode (the power indicator turns off). If so, slide the power switch.</li> </ul>  |
| <p>When the battery pack is used, the screen is darker than when the AC adaptor is connected</p>   | <ul style="list-style-type: none"> <li>● Press the <b>Fn+F2</b> key and adjust the brightness. Note, however, that when the brightness is increased, the battery running time will become shorter. Brightness can be set to separate levels for when the AC adaptor is connected and when it is disconnected.</li> </ul>  |
| <p>An afterimage appears (e.g., the key green, red, and blue dots remain on the display) or there are dots not displaying the correct colors</p> | <ul style="list-style-type: none"> <li>● If an image is displayed for a prolonged period of time, an afterimage may appear. This is not a malfunction. The afterimage will disappear when a different screen is displayed.</li> <li>● High-precision and advanced technologies are used in the production of color liquid crystal displays (color LCDs). Therefore, if 0.002% or less of the picture's elements either fail to light or remain constantly lit (that means that more than 99.998% of the elements are functioning properly), this is not considered a defect.</li> </ul>   |
| <p>The screen becomes disordered</p>   | <ul style="list-style-type: none"> <li>● The screen display may become distorted if the resolution or number of colors is changed, or if an external display is connected or disconnected while the computer is operating. Restart the computer.</li> </ul>   |
| <p>The external display no longer shows the correct image</p>  | <ul style="list-style-type: none"> <li>● When an external display, not compatible with the power-saving mode, is connected to the computer. The display may not function correctly when the computer enters the power-saving mode. Turn off the power to the external display.</li> </ul>   |
| <p>When you want to display the fonts or icons in a larger size</p>  | <ul style="list-style-type: none"> <li>● Change the size of the icons, etc. using "Icon Enlarger" (→ "Chapter 6: Icon Enlarger" in onscreen Reference Manual).</li> <li>● You can also change the settings as follows (for more details, refer to the Windows Help).             <ol style="list-style-type: none"> <li>① Click [start] - [Control Panel] - [Appearance and Themes] - [Display] - [Appearance].</li> <li>② Select the font size in [Font size] and click [Effects]. Then add the check mark for [Use large icons] to increase the icon size.</li> <li>③ Click [OK], then click [OK].</li> </ol> </li> <li>● To enlarge a part of the screen, use "Loupe Utility" (→ "Chapter 6: Loupe Utility" in onscreen Reference Manual).</li> </ul>      |

## ◆ Display

|  |  |
|--|--|
| <p>During simultaneous display, if one of the screens malfunctions</p>   | <ul style="list-style-type: none"> <li>● Try changing the display by pressing the <b>Fn + F3</b> key</li> <li>● If you continue to experience problems, try changing the display destination as follows:             <ol style="list-style-type: none"> <li>① Click [start] - [Control Panel], from the [See Also] area click [Other Control Panel Options], then click [Intel(R) Extreme Graphics] - [Devices].</li> <li>② Click the display destination. Then click [OK].</li> </ol> </li> <li>● When [Command Prompt] is set to "Full Screen" by pressing the <b>Alt + Enter</b> key, the screen is shown on only one of the displays. When the window display is restored by pressing the <b>Alt + Enter</b> key, the screen is exhibited on both displays.</li> </ul> |
| <p>When a video such as an MPEG file and a DVD video is being played with WinDVD or Windows® Media Player, the display destination cannot be switched using the <b>Fn + F3</b> key</p> | <ul style="list-style-type: none"> <li>● The display destination cannot be switched while a video such as an MPEG file or a DVD video are playing. Stop playing the video before switching the display destination.</li> </ul>   |
| <p>The notification area icons on the bottom right of the screen are hidden and cannot be seen</p>   | <ul style="list-style-type: none"> <li>● Click the  icon on the notification area to display the hidden icons</li> <li>● If you want all icons to be displayed constantly, right-click on the taskbar, click [Properties], and remove the check mark from [Hide inactive icons] in [Taskbar].</li> </ul>  |

## ◆ Setup Utility

|  |   |
|--|---|
| <p>[Enter Password] is displayed</p>   | <ul style="list-style-type: none"> <li>● Enter the Supervisor Password or User Password. If you have forgotten your password, contact your technical support office.</li> </ul> |
| <ul style="list-style-type: none"> <li>● The [Advanced] and [Boot] menu can not be registered</li> <li>● Some items in [Security] menu can not be registered</li> <li>● <b>F9</b> does not work</li> </ul> | <ul style="list-style-type: none"> <li>● Restart the Setup Utility with the Supervisor Password.</li> </ul>   |

## ◆ Shutting Down

|   |   |
|---|---|
| <p>Windows cannot be shut down or restarted</p> | <ul style="list-style-type: none"> <li>● If a USB device is connected, try remove it.</li> <li>● Is the connection to the ISP provider set properly?<br/>If the setting are incorrect, Windows may not shut down, or may not start up. For details of communication settings, refer to the ISP provider's manual.</li> <li>● Is the LAN or wireless LAN set properly?<br/>If settings are incorrect, Windows may not shut down, or may not start up. Check with your provider or with your system administrator about LAN and wireless LAN settings.</li> </ul> |
|---|---|

## ◆ Standby/Hibernation Function

|  |  |
|--|--|
| <p>Unable to enter standby or hibernation mode</p> | <ul style="list-style-type: none"> <li>● If a USB device is connected to the computer, the standby or hibernation function may not work properly. Simply remove the USB device. If the problem persists, restart the computer.</li> <li>● It may take a minute or two to enter standby or hibernation mode.</li> <li>● The computer may not enter standby mode properly and seems to be frozen while the computer is communicating via the modem. If this happens, slide the power switch for four seconds or more to forcibly turn your computer off.</li> <li>● If there is a disk in the DVD-ROM &amp; CD-R/RW drive that has been formatted using B's CLiP, the computer will not enter standby or hibernation mode. Remove the disk.</li> </ul> |
|--|--|

# Dealing with Problems (Summary)

## ◆ Standby/Hibernation Function

|   |   |
|---|---|
| Unable to automatically enter standby or hibernation mode | <ul style="list-style-type: none"> <li>● If a peripheral is connected to the computer, disconnect the device</li> <li>● When the internal LCD is closed, the computer may not enter standby or hibernation mode. In order to activate standby or hibernation automatically while using the computer with the internal LCD closed, set [Touch Pad] to [Disable] in the [Main] menu of the Setup Utility.</li> <li>● If there is a disk in the DVD-ROM &amp; CD-R/RW drive that has been formatted using B's CLiP, the computer will not enter standby or hibernation mode. Remove the disk.</li> </ul> |
| The computer does not resume                              | <ul style="list-style-type: none"> <li>● Did you disconnect the AC adaptor or the battery pack while the computer was in standby mode? If the computer's power supply is disconnected while the computer is in standby mode all unsaved data will be lost.</li> <li>● Did you slide the power switch and hold it for four seconds or more? If so, the power will be turned off forcibly. In this case, all unsaved data will be lost.</li> </ul>  |

## ◆ Battery Indicator

|                             |   |
|-----------------------------|---|
| The red indicator is lit    | <ul style="list-style-type: none"> <li>● The battery level is very low (the charge is approx. 9% or less).</li> <li>● Connect the AC adaptor. You can use the computer when the indicator light is orange. If you do not have an AC adaptor, save your data and power off your computer. After replacing the battery pack with a fully charged one, turn your computer on again.</li> </ul> |
| The red indicator blinks    | <ul style="list-style-type: none"> <li>● Quickly save your data and power off your computer. Disconnect the AC adaptor and remove the battery pack, then connect them again. If the problem persists, contact your technical support office. The battery pack or charging circuit may be defective.</li> </ul>  |
| The orange indicator blinks | <ul style="list-style-type: none"> <li>● Battery cannot be recharged temporarily because the internal temperature of the battery pack is beyond the acceptable temperature range for recharging. Once the allowable range requirement is satisfied, charging begins automatically. Your computer can be used normally in this state.</li> </ul>   |

## ◆ Onscreen Reference Manual

|                                       |   |
|---------------------------------------|---|
| The Reference Manual is not displayed | <ul style="list-style-type: none"> <li>● Is Adobe Reader installed?<br/>If you have uninstalled Adobe Reader, install using the following procedures.             <ol style="list-style-type: none"> <li>① Log on to Windows with the administrator authority.</li> <li>② Click [start] - [Run], input [c:\util\reader\AdbeRdr60_enu_full.exe], then click [OK].<br/>Install Adobe Reader by following the instructions on the screen.</li> <li>③ Update Adobe Reader to its latest version.<br/>If your computer is connected to the Internet, start up Adobe Reader and click [Help] - [Update].<br/>If your computer is not connected to the Internet, click [start] - [Run], input [c:\util\reader\Acro-Reader_6.0.2_Update.exe], then click [OK].</li> </ol> </li> </ul> |
|---------------------------------------|---|

## ◆ Disk Operations

|   |  |
|---|--|
| If the DVD-ROM & CD-R/RW drive vibrates excessively or is noisy | <ul style="list-style-type: none"> <li>● Is the disk bent or labeled?</li> <li>● Check to see if the disk is inserted correctly, and it is in good condition. If the disk is good and inserted correctly, set [CD/DVD Drive Speed] to [Low] in the Setup Utility (→ page 33).</li> <li>● When writing to CD-R/RW using B's Recorder, you can minimize vibration while writing by setting the writing speed at [8x] or less.</li> </ul> |
|---|--|

## ◆ Disk Operations

|  |  |
|--|--|
| Cannot eject disk  | <ul style="list-style-type: none"> <li>● Is the computer powered on?<br/>Open lever works only when the computer is powered on.<br/>To remove a disk when the computer is powered off, insert a pointed object (e.g., the bent-out tip of a paper clip, or the tip of a pencil or ballpoint pen) into the emergency hole, and then move it (→ page 44).</li> </ul> |
| Cannot play back TV programs recorded on a commercial DVD recorder | <ul style="list-style-type: none"> <li>● In the following cases, finalize the recording on the DVD recorder: <ul style="list-style-type: none"> <li>• If the program was recorded in DVD-R/RW in video mode</li> <li>• If the program was recorded in DVD-RW in VR mode</li> </ul> </li> </ul>   |

## ◆ Reinstalling B's Recorder/B's CLiP

|  |  |
|--|--|
| When reinstalling, you will be asked for a serial number | <ul style="list-style-type: none"> <li>● Input the following serial number.<br/>B's Recorder:<br/>B's CLiP:</li> </ul> |
|--|--|

## ◆ SD Card Setup (SD Memory Card security function)

|  |   |
|--|---|
| Cannot log-on to Windows with the SD memory card | <ul style="list-style-type: none"> <li>● Windows log-on user name and password are not set in the SD memory card correctly.<br/>Enter the Windows user name and password without using the SD memory card.<br/>After logging on to Windows, set the same user name and the password on the SD memory card and Windows, using one of the following operations: <ul style="list-style-type: none"> <li>• Change the setting for the SD memory card [SD Card Setup]</li> <li>• Change the setting for Windows [Control Panel] (→ "Chapter 2: Security Measures" in onscreen Reference Manual)</li> </ul> </li> </ul> |
|--|---|

## ◆ Fast User Switching Function

|   |  |
|---|--|
| Some applications may not work properly | <ul style="list-style-type: none"> <li>● When switching to a different user with the Fast User Switching function, the following problems may occur: <ul style="list-style-type: none"> <li>• Some applications may not work properly.</li> <li>• Key combination with the <b>Fn</b> key may not work.</li> <li>• It may not be possible to set the settings of the display.</li> <li>• The wireless LAN cannot be used.</li> <li>• The B's CLiP icon will no longer be shown on the notification area and CD-RW disk cannot be written.</li> </ul> </li> </ul> <p>In this case, log-off all users without using Fast User Switching function, and try the operation once more. If the problem persists, restart the computer.</p> |
|---|--|

## ◆ Wireless LAN

|   |  |
|---|--|
| Wireless LAN cannot be used<br>Access point is not detected | <ul style="list-style-type: none"> <li>● When the wireless LAN function is turned off, turn it on using Intel<sup>®</sup> PROSet/Wireless Software. (→ page 40)</li> <li>● Check that the access point is powered on.</li> <li>● For detailed information, refer to "Chapter 7: Problems with Wireless LAN" in onscreen Reference Manual.</li> </ul> |
|---|--|

## ◆ Expanding Memory

|   |  |
|---|--|
| You do not know the available RAM module                        | → page 72  |
| Cannot tell whether the RAM module has been correctly installed | <ul style="list-style-type: none"> <li>● You can check whether the RAM module is recognized using the [Information] menu in the Setup Utility. (→ page 33)<br/>If the RAM module is not recognized, turn the computer off and reinsert.</li> </ul> |
| The RAM module has not been recognized                          | <ul style="list-style-type: none"> <li>● Make sure the RAM module has been properly inserted.</li> <li>● Use the RAM module that supports the recommended specifications (→ page 29).</li> </ul>   |

# Dealing with Problems (Summary)

## ◆ Other Problems

|  |  |
|--|--|
| No response  | <ul style="list-style-type: none"><li>● Press the <b>Ctrl+Shift+Esc</b> key to open Task Manager and close the software application that is not responding.</li><li>● Is there an input screen (e.g., password input screen at startup) hidden behind another window? Use the <b>Alt+Tab</b> key to check for other windows being displayed.</li><li>● After shutting down by sliding the power switch for more than four seconds, slide the power switch to power on and open the application again. If the program no longer works normally, delete the program using the following menu. Then reinstall the program.<br/>[start] - [Control Panel] - [Add or Remove Programs]</li></ul> |
| When trying to play back video files using Windows® Media Player, the message [Codec required] appears, and the file cannot be played back | <ul style="list-style-type: none"><li>● Some video files use a Codec that is not installed as a standard. In these cases, if you play back the video file after connecting to the Internet, the Codec may be downloaded automatically, allowing you to play back the file.</li></ul>   |
| Cannot operate Fn keys (→ page 28)   | <ul style="list-style-type: none"><li>● In the [Main] menu of the Setup Utility, is [Fn/Ctrl Key] set to [Replace]? (→ page 33)<br/>Return the setting to [Normal], or press the <b>Ctrl</b> key instead of the <b>Fn</b> key if you want to leave the setting in [Replace].</li></ul>   |

## Check the Computer's Usage Status

You can use the PC Information Viewer to check the computer's usage status, and use this information when calling your technical support office for advice. (If you have not logged on to Windows with the administrator authority, some information will be displayed as [Not Found].)

### ◆Running PC Information Viewer

- ① Click [start] - [All Programs] - [Panasonic] - [PC Information Viewer] - [PC Information Viewer].

Click on the items to display detailed information for each item.

- The [PC Information Viewer] screen is always displayed on the top of every other screen.

### ◆Save information to a file

Displayed information can be saved save to a text file (.txt).

- ① Run the PC Information Viewer and display the information you wish to save.

- ② Click [Save].

- To save the item that is displayed.

Click [Save only the information displayed] and click [OK].

Some of the hidden information on the screen, which cannot be shown without scrolling the screen, will be saved, too.

- To save all items.

Click [Save all the information] and click [OK].

- ③ Select the folder, input the file name, then click [Save].

### ◆Save a copy of the screen to a file

You can save a copy of the screen currently being displayed to a file in bitmap format (.bmp).

- ① Display the screen you want to save.

- ② Press the **Ctrl+Alt+F8** key.

- ③ When a message "The copy of the screen was saved..." is displayed, click [OK].

[pcinfo.bmp] file will be saved in [My Documents] folder. If [pcinfo.bmp] file already exists, it will be overwritten. (If [pcinfo.bmp] file is set as a "Read-only" or "Hidden" file, the new file cannot be saved.)

- To display the extension of the file, click [Tools] - [Folder Options] - [View] from Explorer, and remove the check mark for [Hide extensions for known file types] under the [Advanced settings] section.

#### NOTE

- You can also save a copy of the screen to a file using the following procedure: Click [start] - [All Programs] - [Panasonic] - [PC Information Viewer] - [Screen Copy].
- At the time of purchase, the computer is set so that a copy of the screen can be saved to a file by pressing the **Ctrl+Alt+F8** key. This setting can be changed using the following procedure:
  - ① Click [start] - [All Programs] - [Panasonic] - [PC Information Viewer].
  - ② Right-click [Screen Copy], and then click [Properties] - [Shortcut].
  - ③ Move the cursor to [Shortcut key], press the key to be used for the shortcut, and then click [OK].
- Colors are saved in 256 colors.
- When using an Extended Desktop:  
A copy of the screen displayed on the primary device will be saved.

# Information for Installed Applications


If the application software supplied with this computer does not function properly, carefully read the problem-solving section of this manual and onscreen Reference Manual as well as the help Information.

If you can connect to the Internet, refer to “Frequently Asked Questions” and other support information available on the relevant homepage for the manufacturer of the application software.

If you cannot find any hints or methods there to resolve your problem, forward your question to the address shown below.

When forwarding an inquiry, include information on your computer’s usage conditions.

- B’s Recorder / B's CLiP  
B.H.A.
  - URL:  
<http://www.bhacorp.com/>
  - E-mail addresses:  
U.S./Canada (English): [BHAxpsupport@bhacorp.com](mailto:BHAxpsupport@bhacorp.com)  
Other countries (English, German, French, Italian, Spanish):  
[eurosupport@bhacorp.com](mailto:eurosupport@bhacorp.com)
- WinDVD  
InterVideo, Inc.
  - URL:  
<http://www.intervideo.com/>
  - Support Information:  
Follow the steps below to contact InterVideo, Inc.

① Double-click the  icon, and start Internet Explorer.

② Access <http://www.intervideo.com/>

③ Click [Support] - [Customer Service] - [Support Request Form].

④ Click [Language] and select the language.

⑤ Fill out the form and click [Submit].

- Other pre-installed software  
Contact the Panasonic technical support office as listed in the “LIMITED WARRANTY.”  
Confirm the contact information for the Panasonic technical support office using the following procedure:
  - ① Click [start], right-click on [My Computer], and click on [Properties].
  - ② Click on [Support Information].



# Reinstalling Software

When reinstallation procedure is performed, the contents of the hard disk will be erased. Be sure to back up any critical data on your hard disk to another media or to an external hard disk before running the reinstallation procedure. The reinstallation procedure will return the computer to its original condition. If you have created partitions for data, the data may be erased or become corrupt as a result of the reinstallation procedure.

## ◆ What is “Reinstallation”?

Reinstallation refers to formatting the hard disk, and reinstalling Windows.

## ◆ When is “Reinstallation” necessary?

- When Windows does not start up, or when Windows operation is unstable and cannot be recovered.
- When using the hard disk with two partitions.

## Before Reinstallation

### ◆ Preparing

- You will need the Product Recovery DVD-ROM (included).

### ◆ Confirm the following

- Remove all peripherals and SD memory cards/MultiMedia Cards. Especially, when a USB floppy disk drive or a USB CD/DVD drive is connected, the reinstallation does not operate properly. Remove them.
- Even if reinstallation is executed, the number of times that the DVD video region code can be set will not be returned to the state set at the time of factory shipment.

### ◆ Reinstallation Procedure

Change the settings in the Setup Utility



Use the Product Recovery DVD-ROM to execute reinstallation. (About 20 minutes)



Return the Setup Utility settings to their default values.



Setup Windows.



Change the settings in the Setup Utility. (Only when necessary)



If you can connect to the Internet, perform Windows Update.  
(→ “Chapter 8: To Update this Computer to its Latest Version” in onscreen Reference Manual)

## Reinstalling

### 1 Connect the AC adaptor.

Do not interrupt the reinstallation procedure before completion, for example by turning off the computer or pressing the **Ctrl + Alt + Del** key, as this may prevent Windows from starting up, or may cause data to be lost so that the reinstallation procedure cannot be executed.

### 2 Change the settings in the Setup Utility.

Make the following settings.

- Return settings to the status at the time of shipment.
- Change settings to enable startup from DVD-ROM & CD-R/RW drive. If you change the status of the computer from that at the time of purchase, we recommend that you make a note of the settings that are changed.

① Turn on the computer, and press the **F2** key while [Panasonic] boot screen is displayed.

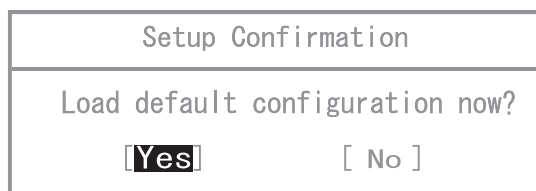
The Setup Utility will start up.

- If the password has been set, enter the Supervisor Password, and press the **Enter** key.

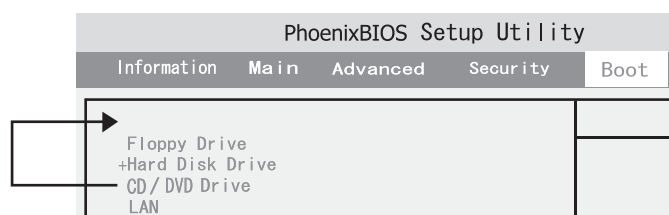


② Press the **F9** key.

At the confirmation message, select [Yes] and press the **Enter** key.



③ Select the [Boot] menu, then select [CD/DVD Drive] and press the **F6** key until [CD/DVD Drive] is at the top of the [Boot] menu.



④ Place the Product Recovery DVD-ROM into the DVD-ROM & CD-R/RW drive.

- When the disk cover does not open:  
[CD/DVD Drive Power] has been set to [Off] in the [Main] menu. Perform the following procedure.  
Press the **F10** key.  
At the confirmation message, select [Yes] and press the **Enter** key.  
(The computer will restart)

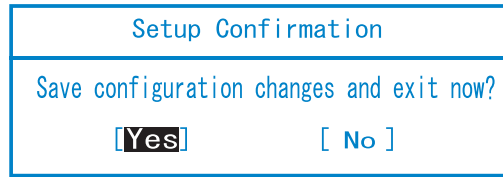


Press the **F2** key while [Panasonic] boot screen is displayed.



Place the Product Recovery DVD-ROM, and execute step ⑤.

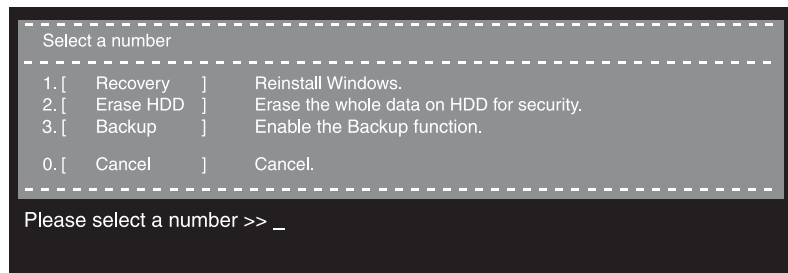
- ⑤ Press the **F10** key.  
At the confirmation message, select [Yes] and press the **Enter** key.



The Setup Utility will close, and the computer will restart.

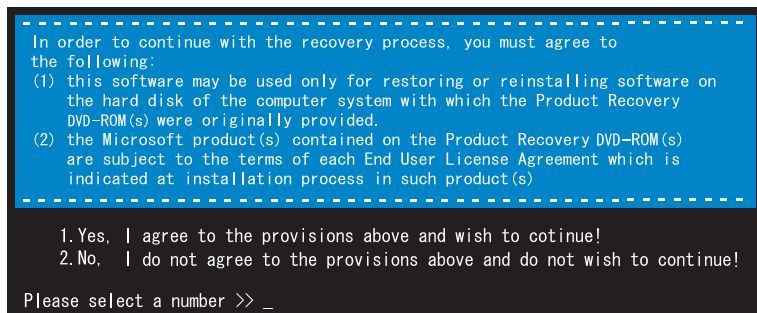
### 3 Use the Product Recovery DVD-ROM to execute reinstallation.

- ① Press the **1** key to execute [1. [Recovery]].  
(All of the screens below are only examples.)

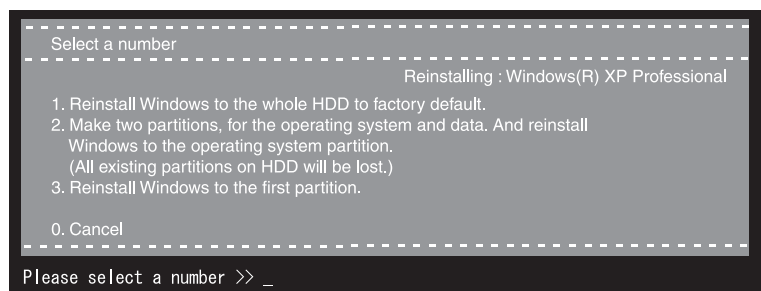


- The provision to perform the reinstallation will be displayed.  
<When the hard disk backup function has been enabled>  
When the message [The Backup function has been enabled. If [Recovery] or [Erase HDD] is executed, the Backup function will be disabled, and your Backup data will be lost.] appears, press the **Y** key.

- ② If you agree, press the **1** key.  
If you do not agree, press the **2** key.
- If you press the **1** key the menu will be displayed.
  - If you press the **2** key the reinstallation will be canceled.



- ③ Make a selection from the menu.



- To return the computer to its status at the time of purchase  
Press the **1** key.

- To divide the hard disk into two partitions (for OS and data)  
Press the **2** key.  
↓  
Enter the basic partition size (GB) for the operating system installation and press the **Enter** key.
  - You can cancel this operation by pressing the **0** key.
  - The data partition size is the remainder after subtracting the basic partition size. (Data partition: 1 GB or more)  
Maximum settable size differs depending on the model.
- To reinstall Windows in the original partition without changing the partition configuration  
Press the **3** key.
  - The first partition size must be 6 GB or more of the hard disk size.  
Reinstallation cannot be performed with a small partition size.

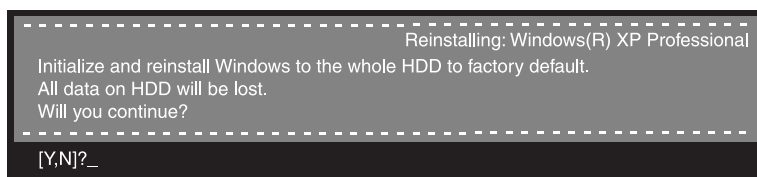
<When the hard disk backup function has been enabled>

If you select [1] or [2], the message [The Backup function has been enabled.

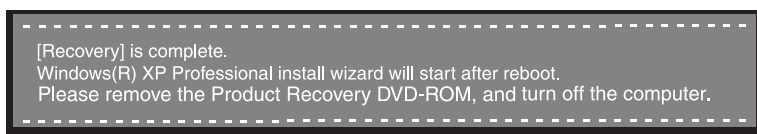
If [Recovery] is executed, the Backup function will be disabled, and your Backup data will be lost.] appears. In this case, press the **Y** key.

If the message [Computer must be rebooted in order to execute [Recovery.]] appears, press the **R** key.

- ④ At the confirmation message, press the **Y** key.
  - The operation of reinstallation for the hard disk starts automatically. (The operations take about 20 minutes.)
  - Do not interrupt the reinstallation procedure before completion, for example by turning off the computer or pressing the **Ctrl + Alt + Del** key, as this may prevent Windows from starting up, or may cause data to be lost so that the reinstallation procedure cannot be executed.



- ⑤ The message "[Recovery] is complete" will be displayed. Remove the Product Recovery DVD-ROM, and press any key to shut down the computer.



## 4 Return the Setup Utility settings to their default values.

Return the Setup Utility to its settings at the time of shipment to ensure proper setup of Windows.

- ① Turn on the computer, and press the **F2** key while [Panasonic] boot screen is displayed.  
The Setup Utility will start up.  
If the password has been set, enter the Supervisor Password, and press the **Enter** key.
- ② Press the **F9** key.  
At the confirmation message, select [Yes] and press the **Enter** key.
- ③ Press the **F10** key.  
At the confirmation message, select [Yes] and press the **Enter** key.  
The Setup Utility will close, and the computer will restart.

---

## **5 Setup Windows. (→ page 19)**

---

## **6 Run the Setup Utility and change the settings where necessary.**

(The Setup Utility settings will return to their default values. Even the security settings with the exception of the password(s), date and time will return to their default values.)

---

## **7 If you can connect to the Internet, perform Windows Update.**

(→ “Chapter 8: To Update this Computer to its Latest Version” in onscreen Reference Manual)

### **◆ Changing the drive letter**

You can change the drive letter for the DVD-ROM & CD-R/RW drive or hard disk drive by the following steps.

- The C: drive cannot be changed.
- DVD-ROM & CD-R/RW drive is the D: drive at the time of factory shipment.
- We recommend that you make these changes before installing applications.
  - ① Click [start] - [Control Panel] - [Performance and Maintenance] - [Administrative Tools] and double click [Computer Management].
  - ② Click [Disk Management] from [Storage].
  - ③ Right click on the partition of the hard disk or the name of the DVD-ROM & CD-R/RW drive and click [Change Drive Letter and Paths...].
  - ④ Click [Change].
  - ⑤ Click [Assign the following drive letter] and select the new drive letter, and then click [OK].
  - ⑥ At the confirmation message, click [Yes].

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# Hard Disk Backup Function

The hard disk backup function creates a backup area (storage area) on the hard disk. This area is to back up (store) hard disk contents or restore backed up contents to their original locations.

By backing up the data on your hard disk to a backup area, you can protect your data from loss or damage resulting from operational errors or other factors. Also, you can back up or restore hard disk contents using this computer alone, without having to use other media or peripheral devices.

At the time of purchase, the hard disk backup function is disabled. If you follow the procedure below to create a backup area, the hard disk backup function will be enabled, and you will be able to back up your data. Note, that once the backup function has been enabled, you will have to perform the reinstallation procedure to disable it again (→ page 57).

The hard disk backup function cannot back up or restore data properly if there is a problem with the hard disk when the data is backed up or restored. Note that if an error occurs while data is being restored, whether as a result of an unexpected malfunction, incorrect operation, or other reason, the data in the hard disk (data before restoration) may be lost.

Matsushita Electric Industrial Co., Ltd. will bear no responsibility for any damages suffered by the user (including loss of data) as a result of the use of this function.

## Preparing

You will need the Product Recovery DVD-ROM (included).

## Before Using a Hard Disk Backup Function

- Disconnect or remove all peripheral devices, SD memory cards, and MultiMedia Cards. Take care to disconnect the USB floppy disk drive, as the backup area may not be created properly while these devices are connected.
- Be sure the AC adaptor is connected to the computer.
- A backup area cannot be created if the hard disk is already divided into several partitions. Return the computer to its condition at the time of purchase (one partition only), and create the backup area.
- To divide the partition, make the selection when the backup area is created (→ page 66 step ⑦).
- If the partition configuration is changed (partitions created, size changed, etc.) after the backup area has been created, it will no longer be possible to execute the backup function. To change the configuration, it is necessary to return the computer to its condition at the time of purchase, and then create the backup area again.
- The hard disk backup function will only work for the internal hard disk. This function does not work with an external hard disk.
- Backup and restore functions will not operate if the hard disk has been damaged.
- Do not use the NTFS file system compression function, as this may result in insufficient capacity of the backup area.
- If the hard disk malfunctions, it will be impossible to read the data stored on it. We recommend that you also back up important data to a location other than the hard disk (an external hard disk or other media).
- Execute a disk error check using the following procedure.
  - ① Display [Local Disk(C:) properties].  
Right-click [Local Disk(C:)] in [start] - [My Computer], and click [Properties].
  - ② Click [Check Now] from [Tools].
  - ③ In [Check Disk], click [Start] without adding a check mark beside any of the items.  
If a message is displayed indicating that there is an error in the disk, display [Check Disk], and add a check mark for [Automatically fix file system errors] and [Scan for and attempt recovery of bad sectors], click [Start], and check for disk errors again.
- The hard disk backup function does not accommodate dynamic disks. Do not convert the hard disk to a dynamic disk.



## NOTE

- Regarding backup area
  - Requires availability of at least half of the entire hard disk. Without sufficient space available, the backup area cannot be created.
  - When the backup area is created, the usable hard disk capacity will be reduced to less than half.
  - The backup area cannot be accessed from Windows. For this reason, backed up data cannot be copied to CD-R or other removable disk media.
  - When the hard disk backup function is executed, data in the backup area will be overwritten. If newly created or edited data is backed up later, data stored previously in the backup area will be lost.

## Create a Backup Area

- ① Turn the computer on, and press the **F2** key while [Panasonic] boot screen is displayed.  
The Setup Utility will start up.  
If a password has been set, enter the Supervisor Password.  
You cannot register [Boot] menu with a User Password.
- ② Select the [Boot] menu, then select [CD/DVD Drive] and press the **F6** key until [CD/DVD Drive] is at the top of the [Boot] menu.
- ③ Place the Product Recovery DVD-ROM into the DVD-ROM & CD-R/RW drive.
  - When the disk cover does not open:  
[CD/DVD Drive Power] has been set to [Off] in the [Main] menu. Perform the following procedure.  
Set [CD/DVD Drive Power] to [On].  
↓  
Press the **F10** key.  
At the confirmation message, select [Yes] and press the **Enter** key.  
The computer will restart.  
↓  
Press the **F2** key while [Panasonic] boot screen is displayed.  
The Setup Utility will start up.  
↓  
Set the Product Recovery DVD-ROM, and execute step ④.
- ④ Press the **F10** key.  
At the confirmation message, select [Yes] and press the **Enter** key.  
The computer will restart. If [Enter Password] is displayed during the following procedures, input the Supervisor Password or the User Password.  
This screen should appear.

```
-----  
Select a number  
-----  
1. [ Recovery ] Reinstall Windows.  
2. [ Erase HDD ] Erase the whole data on HDD for security.  
3. [ Backup   ] Enable the Backup function.  
-----  
0. [ Cancel   ] Cancel.  
-----
```

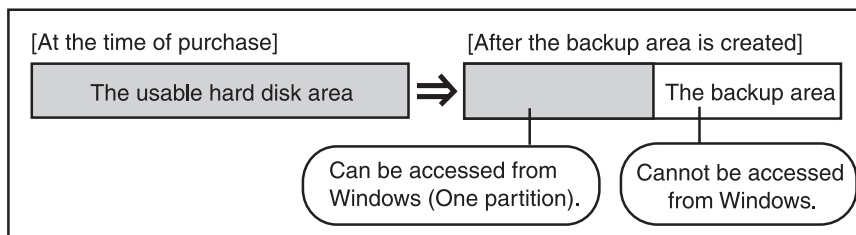
- ⑤ Press the **3** key to execute [3. [Backup]].

## CAUTION

- When dividing the hard disk into partitions  
Do not execute [1. [Recovery]] to divide the hard disk into partitions. The hard disk backup function cannot be enabled after the hard disk has been partitioned.  
Use step ⑦ to divide the hard disk.

# Hard Disk Backup Function

- ⑥ At the confirmation message, press the **Y** key.
- ⑦ Select how to divide the hard disk from the menu.  
<To create a backup area and enable the backup function without dividing the hard disk>  
Select [1].

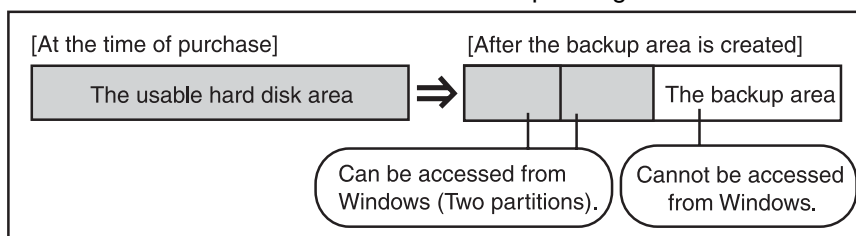


<To create a backup area and divide hard disk into two partitions, for OS and data>

Select [2], enter the partition size (GB), and press the **Enter** key.

- You can cancel this operation by pressing the **0** key.
- The data partition size will be the maximum settable size less the number entered above.

The maximum settable size will differ depending on models.



- ⑧ At the confirmation message, press the **Y** key.  
The backup area is then created.
- ⑨ When the message [You must reboot in order to enable the Backup function.] appears, remove the Product Recovery DVD-ROM, and press any key to restart the computer. The computer is restarted, then the backup process will begin.
- ⑩ When the message [[Backup] is complete] appears, press the **Ctrl + Alt + Del** key to restart the computer.

## CAUTION

- Do not press the **Ctrl + Alt + Del** key until the message is displayed.

- ⑪ After logging on to Windows, a message will appear advising that a new device has been installed and that the computer must be restarted to enable the settings. Select [Yes] to restart the computer.

## NOTE

- The [Boot] menu in the Setup Utility is set to start up from the DVD-ROM & CD-R/RW drive. Change this setting if necessary.
- The next time the backup or restore functions are executed, follow the procedure for [Backing Up and Restoring Data] (→ page 67).

# Backing Up and Restoring Data

## CAUTION

- Before executing the backup function, execute a disk error check (→ page 64).
- Do not interrupt the backup or restore functions before completion, for example by turning off the power or pressing the **Ctrl + Alt + Del** key, as this may prevent Windows from starting up, or may cause data to be lost so that the backup and restore functions cannot be executed.

- ① Turn the computer on, and press the **F2** key while [Panasonic] boot screen is displayed.  
The Setup Utility will start up.  
If a password has been set, enter the Supervisor Password or the User Password.
- ② Select [Exit] menu, then select [Hard Disk Backup / Restore] and press the **Enter** key.  
At the confirmation message, select [Yes], and press the **Enter** key.
- ③ Select the operation to be executed from the menu.  
<To back up hard disk contents to the backup area>
  - (1) Press the **1** key to execute [1. [Backup]].  
(When dividing the hard disk into two partitions, select the backup method at next screen.)
  - (2) At the confirmation message, press the **Y** key.  
The backup process will begin.  
<To restore backed up contents to the hard disk>
    - (1) Press the **2** key to execute [2. [Restore]].  
(When data is backed up in two partitions, select the restore method at next screen.)
    - (2) At the confirmation message, press the **Y** key.  
The restore process will begin.

## NOTE

- The time required to complete the backup or restore process differs depending on the data volume.

- ④ When the message [[Backup] is complete] or [[Restore] is complete] is displayed, press the **Ctrl + Alt + Del** key to restart the computer.
  - If the backup or restore process was interrupted before completion, for example if the power was turned off, execute the process again.
  - When a new device is installed and a message appears advising that the computer must be restarted to enable the settings, select [Yes] to restart the computer.

## CAUTION

- When the hard disk backup function has been enabled, the backed up data will not be erased even if a commercial data erasing utility or similar software is used to erase all data from user-accessible area. You can use the hard disk data erase utility included in this computer (→ page 69) to erase all data on the hard disk, including backed up data. Use this hard disk data erase utility before disposing of or transferring ownership of this computer.
- Occasionally, the message [#1805 cannot write image file] will be displayed, and the backup function will be interrupted. If this error occurs, execute the backup function again. After this, if the backup function is completed properly, then there is no problem in the hard disk.

# Hard Disk Backup Function

- **To disable the hard disk backup function**

Perform the reinstallation procedure. All data in the backup area and the hard disk will be erased.

Conduct steps 1-3 ① for [Reinstalling Software] (→ page 59). Select [1] or [2] to execute the reinstallation at the screen for executing the reinstallation.

- When [1] is selected, the hard disk backup function can be disabled.
- When [2] is selected, the hard disk backup function can be disabled, but in this case, because the hard disk has been divided into partitions, the hard disk backup function cannot be re-enabled (→ page 45).
- When [3] is selected, the hard disk backup function cannot be disabled.

**<When the hard disk backup function has been enabled>**

If you select [3] in step 3 ③ (→ page 59) and execute reinstallation, the drive name for the second partition (data partition) may be switched with that of the SD Memory Card. You can still use the drives after the names have been switched, but you can also return the drive names to their original state using the following procedures.

(The following procedure assumes that before reinstallation, the second partition (data partition) was Drive D:, and the SD Memory Card was Drive E:)

- ① Disable the drive name for the second partition (data partition).
  - (1) Click [start] - [Control Panel] - [Performance and Maintenance] - [Administrative Tools] and double click [Computer Management].
  - (2) Click [Disk Management] from [Storage].
  - (3) Right click on the partition for which [E:] is displayed and click [Change Drive Letter and Paths...].
  - (4) Click [Remove].
  - (5) At the confirmation message, click [Yes].
- ② Change the SD memory card drive name to [E:].

Use the SD drive name change tool to change the SD Memory Card to the E: drive. (→ "Chapter 4: SD Memory Card/MultiMedia Card" in onscreen Reference Manual).
- ③ Set the drive name for the second partition (data partition) as [D:].
  - (1) Click [start] - [Control Panel] - [Performance and Maintenance] - [Administrative Tools] and double click [Computer Management].
  - (2) Click [Disk Management] from [Storage].
  - (3) Right click on the partition for which the drive name is not displayed, and click [Change Drive Letter and Paths...].
  - (4) Click [Add...], assign [D:] as the drive letter, and click [OK].

# Hard Disk Data Erase Utility

This computer is equipped with a utility for erasing hard disk data.

When disposing of or transferring ownership of this device, erase all data on the hard disk in order to prevent the theft of hard disk data following the steps below.

The hard disk data erase utility erases data using an overwriting method, but there is a possibility that due to malfunctions or other operational errors, data may not be completely erased. There are also specialized devices that may be able to read data that has been erased using this method. If you need to erase highly confidential data, we recommend that you contact a company that specializes in this process. Matsushita Electric Industrial Co., Ltd. will bear no responsibility for losses or damages suffered as a result of the use of this utility.

## Before Erasing Data

### ◆Preparing

- You will need the Product Recovery DVD-ROM (included).

### ◆Confirm the followings

- Be sure the AC adaptor is connected until the procedure is completed.
- This utility can only be used for internal hard disk. It cannot be used to erase data from external hard disks.
- This utility cannot erase data from damaged disk.
- This utility cannot erase data for specific partitions.
- After executing this utility, the computer cannot be booted from the hard disk.
- The backup area and the data in the backup area will be erased.

## Completely Erasing Data

<When the hard disk backup function has been enabled>

When the message [The Backup function has been enabled. If [Erase HDD] is executed, the Backup function will be disabled, and your Backup data will be lost.] appears, press the **Y** key.

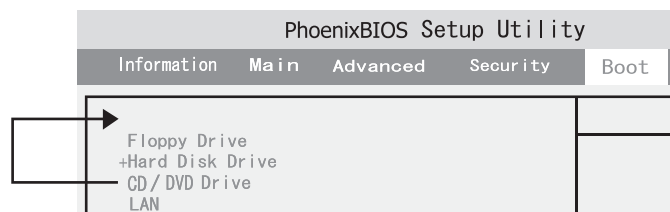
When the message [Computer must be rebooted in order to execute [Erase HDD.]] appears, press the **R** key.

- ① Turn the computer on, and press the **F2** key while [Panasonic] boot screen is displayed.

The Setup Utility will start up.

If the password has been set, enter the Supervisor Password, and press the **Enter** key. The [Boot] menu cannot be changed with User Password.

- ② Select the [Boot] menu, then select [CD/DVD Drive] and press the **F6** key until [CD/DVD Drive] is at the top of the [Boot] menu.



- ③ Place the Product Recovery DVD-ROM into the DVD-ROM & CD-R/RW drive.

- When the disk cover does not open: [CD/DVD Drive Power] has been set to [Off] in the [Main] menu. Perform the following procedure. Set [CD/DVD Drive Power] to [On].



Press the **F10** key.

At the confirmation message, select [Yes] and press the **Enter** key.

# Hard Disk Data Erase Utility

The computer will restart.



Press the **F2** key while [Panasonic] boot screen is displayed.  
The Setup Utility will start up.



Set the Product Recovery DVD-ROM, and execute step ④.

- ④ Press the **F10** key.  
At the confirmation message, select [Yes] and press the **Enter** key.  
The Setup Utility will close, and the computer will restart.  
If [Enter Password] is displayed during the following procedure, enter the Supervisor Password or User Password.
- ⑤ When the message "Select a number" is displayed, press the **2** key and perform [2. [Erase HDD]].  
(You can cancel this operation by pressing the **0** key.)  
The confirmation message will be displayed.
- ⑥ Press the **Y** key.  
Hard Disk Data Erase Utility will start.  
(All of the screens below are only examples.)
- ⑦ When [**<<<Start menu>>>**] is displayed, press the **Enter** key.

```
Hard Disk Data Erase Utility Version *.****
(C) **** Matsushita Electric Industrial Co., Ltd.
-----
<<<Start menu>>>
The Hard Disk Data Erase Utility will erase all data contained on
the hard disk.
Please backup all important data before erasure.
Choose keys according to the instruction messages.
(Continue: Enter key / Cancel: any other key)... _
```

- ⑧ The approximate time required for erasing data will be displayed.  
Press the **Space** key.

```
Hard Disk Data Erase Utility Version *.****
(C) **** Matsushita Electric Industrial Co., Ltd.
-----
<<<Drive list>>>
0:Drive : Total Sectors : ***** (***** )
          Total Size   : ***** MB.
(NOTE)
The Hard Disk Data Erase Utility takes approx. ** to ** minutes
to erase all data from the hard disk.
Please ensure that your computer is running on an AC power supply.
Do you want to execute the Hard Disk Data Erase Utility?
(Yes: Space key / No: any other key)... _
```

- ⑨ At the confirmation message, press the **Enter** key.

```
Hard Disk Data Erase Utility Version *.****
(C) **** Matsushita Electric Industrial Co., Ltd.
-----
<<<Drive list>>>
0:Drive : Total Sectors : ***** (***** )
          Total Size   : ***** MB.
(NOTE)
The Hard Disk Data Erase Utility takes approx. ** to ** minutes
to erase all data from the hard disk.
Please ensure that your computer is running on an AC power supply.
Do you want to execute the Hard Disk Data Erase Utility?
(Yes: Space key / No: any other key)...[Yes]
(NOTE)
Once the Hard Disk Data Erase Utility has been executed, erased data is
never recovered. Press the Enter key to start the Data Erase.
Do you want to execute the Hard Disk Data Erase Utility?
(Execute: Enter key / Cancel: any other key)... _
```

The operation of erasing the hard disk starts.

- If necessary, the "hard disk data erase" operation can be cancelled after it has begun by pressing the **Ctrl+C** key.  
If the operation is cancelled before being completed, a part of data will not be erased.

- 
- ⑩ The message "Hard disk data has been deleted" will be displayed. Remove the Product Recovery DVD-ROM, and press any key to shut down the computer.
- If a problem occurred during the operation, an error message will be displayed.

# Specifications

## ● Main Specifications

|  |  |
|--|--|
| Model No.  | CF-W2FWCZZBM   |
| CPU/<br>Secondary cache memory                           | Intel® Pentium® M Processor 753 (1.20 GHz, 2 MB*1 L2 cache, 400 MHz FSB)   |
| Chip Set   | Intel® 855 GM chip set   |
| Main Memory  | 512 MB*1, DDR SDRAM (1024 MB*1 Max.)   |
| Video Memory   | UMA (64 MB*1 Max.)*2   |
| Hard Disk Drive  | Approx. 40 GB*3  |
| DVD-ROM & CD-R/RW Drive                                  | Buffer underrun error prevention function: Supported   |
| Continuous Data Transfer Speed*4*5/<br>Playback          | ●DVD-RAM*6: 2X speed (4.7 GB*3)/1X speed (2.6 GB*3) ●DVD-R*7: 4X speed (Max.)<br>●DVD-RW: 4X speed (Max.) ●DVD-ROM*8: 8X speed (Max.) ●CD-ROM*8: 24X speed (Max.) ●CD-R*8: 24X speed (Max.) ●CD-RW*8: 24X speed (Max.)   |
| Continuous Data Transfer Speed*4*5/<br>Recording         | ●CD-R write*9: 4X speed, 8X speed, 8-16X speed, 8-24X speed ●CD-RW write: 4X speed ●High-Speed CD-RW write*10: 4X speed, 8X speed, 10X speed ●Ultra-Speed CD-RW write*10: 8X speed, 10X speed, 8-16X speed*11  |
| Compatible Disk and Compatible For-<br>mats*5/Playback   | ●DVD-ROM (Single Layer, Dual Layer) ●DVD-Video ●DVD-R*7(1.4 GB, 3.95 GB, 4.7 GB)*3 ●DVD-RW (Ver.1.1/1.2 1.4 GB, 4.7 GB, 9.4 GB)*3 ●DVD-RAM*6 (1.4 GB, 2.8 GB, 2.6 GB, 5.2 GB, 4.7 GB, 9.4 GB)*3 ●CD-Audio ●CD-ROM (XA compatible) ●CD-R ●Photo CD (multiple session compatible) ●VideoCD ●CD-EXTRA ●CD-RW ●CD-TEXT |
| Compatible Disks and Compatible For-<br>mats*5/Recording | ●CD-R ●CD-RW   |
| Display Method   | 12.1 XGA type (TFT) (1024 × 768 dots)  |
| Internal LCD Display                                     | 65,536/16,777,216 colors (1024 × 768 dots)*12  |
| External Display*13                                      | 65,536/16,777,216 colors (800 × 600 dots/1024 × 768 dots/1280 × 1024 dots/1600 × 1200 dots)  |
| Simultaneous Display on LCD + Exter-<br>nal Display*13   | 65,536/16,777,216 colors (800 × 600 dots, 1024 × 768 dots)*12  |
| Wireless LAN   | Built-in Intel® PRO/Wireless 2915 ABG (→ page 74)  |
| LAN*14   | IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX  |
| Modem  | Data: 56 kbps (V.92) FAX: 14.4 kbps  |
| Sound  | WAVE and MIDI playback, Monaural Speaker (built in)  |
| Card Slots   | PC Card Slot × 1: (One Type I or Type II, Allowable current 3.3 V: 400 mA, 5 V: 400 mA)<br>SD Memory Card Slot*15 × 1  |
| RAM Module Slot  | 172-pin, 2.5 V, Micro DIMM, DDR SDRAM, PC2100 Compliant*16   |
| Interface  | USB Ports × 2 (USB2.0 × 2)*17 / Modem Port (RJ-11) / LAN Port (RJ-45)*14 /<br>External Display Port: Mini Dsub 15-pin female / Microphone Jack: Miniature jack, 3.5 DIA / Headphone Jack: Miniature jack, 3.5 DIA  |
| Keyboard/Pointing Device                                 | 85 keys/Touch Pad  |
| Power  | AC adaptor or Battery pack   |
| AC Adaptor*18  | Input: 100 V - 240 V AC, 50 Hz/60 Hz<br>Output: 16 V DC, 2.5 A   |



● Main Specifications

|                                  |           |  |                                 |
|----------------------------------|-----------|--|---------------------------------|
| Model No.                        |           | CF-W2FWCZZBM   |                                 |
| Battery Pack                     |           | Li-ion 7.4 V, 7.05 Ah  |                                 |
| Operating Time <sup>*19</sup>    |           | Approx. 4 hours - 7.5 hours <sup>*20</sup> (Approx. 5.5 hours <sup>*21</sup> )   |                                 |
| Charging Time <sup>*22</sup>     |           | Approx. 4.5 hours  |                                 |
| Power Consumption <sup>*23</sup> |           | Approx. 35 W <sup>*24</sup> / Approx. 40 W (maximum when recharging in the ON state)                                     |                                 |
| Physical Dimensions (W × H × D)  |           | 268 mm × 27.5 mm (at the front)/41.5 mm (at the rear) × 209.2 mm (excluding protrusion) {10.6 " × 1.1 " / 1.7 " × 8.3 "} |                                 |
| Weight                           |           | Approx. 1310 g {2.9 lb.}   |                                 |
| Environment                      | Operation | Temperature  | 5°C to 35°C {41°F to 95°F}      |
|                                  |           | Humidity   | 30% to 80% RH (No condensation) |
|                                  | Storage   | Temperature  | -20°C to 60°C {-4°F to 140°F}   |
|                                  |           | Humidity   | 30% to 90% RH (No condensation) |

\*1 1 MB = 1,048,576 bytes

\*2 A segment of the main memory is allotted automatically depending on the computer's operating status. The size of the Video Memory cannot be set by the user.

\*3 1 GB = 1,000,000,000 bytes. Operating system or some application software will report as fewer GB.

\*4 Data transfer speeds indicate values measured by Matsushita Electric Industrial Co., Ltd. The data transfer rate of DVD per 1X speed is 1,350 KB/s. The data transfer rate of CD per 1X speed is 150 KB/s.

\*5 Performance of CD-R, CD-RW, DVD-RAM, DVD-R, and DVD-RW cannot be guaranteed depending on writing status and recording format. Also, some data cannot be played back depending on the disk, settings, and environment being used.

\*6 In the case of DVD-RAM, only non-cartridge disks or removable cartridge disks can be used.

\*7 DVD-R is compatible with 4.7 GB (for General) playback. DVD-R (for Authoring) playback is compatible with disks recorded using Disk-at-Once recording.

\*8 If an unbalanced disk (e.g., a disk with which the balance has been displaced from the center) is inserted, the speed may become slower if there are large vibrations while the disk is rotating.

\*9 Depending on the disk, the writing speed may become slower.

\*10 Does not support 24X speed rewriting.

\*11 Does not support 4X speed.

\*12 A 16,777,216 color display is achieved by using the dithering function.

\*13 Display may be impossible using some connected external displays.

\*14 Some devices cannot be used depending on the port type.

\*15 Operation has been confirmed for Panasonic SD memory cards with up to 1 GB capacity. The transfer rate using the SD memory card slot on this computer is 2 MB per second (this is a theoretical value, and differs from actual speeds). The transfer rate is 2 MB per second even if you use an SD memory card that supports high-speed transfer rates. Does not guarantee connection/operation of all SD devices. Does not support SD I/O.

\*16 A PC2700-compliant RAM module added to this computer, operates at the same speed as a PC2100-compliant RAM module.

\*17 Does not guarantee operation of all USB-compatible peripherals.

\*18 <Only for North America>

The AC adaptor is compatible with power sources up to 240 V AC adaptor. This computer is supplied with a 125 V AC compatible AC cord.

\*19 Varies depending on the usage conditions, CPU speed, etc.

\*20 Measured using BatteryMark™ Version 4.0.1 (LCD brightness: Maximum - Minimum)

\*21 Measured using MobileMark™ 2002 (LCD brightness: 60 cd/m<sup>2</sup>)

\*22 Varies depending on the usage conditions, CPU speed, etc.

It may take a long time to charge a fully discharged battery.

\*23 Approx. 1.5 W when the battery pack is fully charged (or not being charged) and the computer is off.

\*24 Rated power consumption.

# Specifications

## ● Main Specifications

|                                      |  |
|--------------------------------------|--|
| OS* <sup>1</sup>                     | Microsoft® Windows® XP Professional with Service Pack 2 with Advanced Security Technologies (NTFS File system)   |
| Pre-installed Software* <sup>1</sup> | Microsoft® Internet Explorer 6 Service Pack 2 / DirectX 9.0 c /<br>Microsoft® Windows® Media Player 9 / Microsoft® Windows® Movie Maker 2.1  |
|                                      | Adobe Reader, Intel® PROSet/Wireless Software, SD Utility, Icon Enlarger, Loupe Utility, Touch Pad Utility, DMI Viewer, PC Information Viewer, WinDVD™5 (OEM Version), B's Recorder GOLD8 BASIC, B's CLiP 6* <sup>2</sup> , Hotkey Settings, Optical Disc Drive Power-Saving Utility, Wireless LAN Switch Setup Utility, Hard Disk Data Erase Utility* <sup>3</sup> , Hard Disk Backup Utility* <sup>3</sup> |

\*<sup>1</sup> Operations of this computer are not guaranteed except for the pre-installed OS.

\*<sup>2</sup> Preinstalled B's CLiP does not support CD-R.

\*<sup>3</sup> The Product Recovery DVD-ROM is required.

## ● Wireless LAN

|                        |   |
|------------------------|---|
| Data Transfer Rates    | IEEE802.11a: 54/48/36/24/18/12/9/6 Mbps (automatically switched)* <sup>4</sup><br>IEEE802.11b: 11/5.5/2/1 Mbps (automatically switched)* <sup>4</sup><br>IEEE802.11g: 54/48/36/24/18/12/9/6 Mbps (automatically switched)* <sup>4</sup> |
| Standard Supported     | IEEE802.11a/IEEE802.11b/IEEE802.11g   |
| Transmission Method    | OFDM system, DSSS system  |
| Wireless Channels Used | IEEE802.11a: channels 36/40/44/48/52/56/60/64/149/153/157/161/165<br>IEEE802.11b/ IEEE802.11g: channels 1 to 11   |
| RF Frequency Band      | IEEE802.11a: 5.18 - 5.32 GHz, 5.745 - 5.825 GHz<br>IEEE802.11b/ IEEE802.11g: 2412 - 2462 MHz  |

\*<sup>4</sup> These are speeds specified in IEEE802.11a+b+g standards. Actual speeds may differ.



As an ENERGY STAR® Partner, Matsushita Electric Industrial Co., Ltd. has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

**Outline of the International ENERGY STAR® Office Equipment Program**

The international ENERGY STAR® Office Equipment Program is an international program that promotes energy saving through the use of computers and other office equipment. The program backs the development and dissemination of products with functions that effectively reduce energy consumption. It is an open system in which business proprietors can participate voluntarily. The targeted products are office equipment such as computers, displays, printers, facsimiles, and copiers. Their standards and logos are uniform among participating nations.

# Index

Also, refer to onscreen Reference Manual. Some explanations that are not described in this manual may be described in onscreen Reference Manual. (→ page 12)

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