Panasonic®

OPERATING INSTRUCTIONS

Personal Computer

Model No. **CF-W5** series

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Getting Started

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Appendix

For further information about the computer, you can refer to the on-screen manual.
To access the on-screen manual
➔ **page 15 "On-screen Manual"**

Please read these instructions carefully before using this product and save this manual for future use.

Introduction

Thank you for purchasing this Panasonic computer. For optimum performance and safety, please read these instructions carefully.

■ **Terms and illustrations in these instructions**

CAUTION :	Conditions that may result in minor or moderate injury.	
NOTE :	Useful and helpful information.	
Enter :	Press [Enter] key.	
Fn + **F5** :	Press and hold [Fn] key, and then press [F5] key.	
[start] - [Run] :	Click [start], and then click [Run].	
➔ :	Page in these Operating Instructions.	
➔ 📖 :	Reference to the on-screen manuals.	

● Some illustrations are simplified to help your understanding and may look different from the actual unit.
● If you do not log on as an administrator, you cannot use some functions or cannot display some screens.
● Refer for the latest information about optional products to the catalogs, etc.
● In these instructions, the names and terms are referred as follows.
  • "Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies" as "Windows" or "Windows XP"
  • "WinDVD™ 5 (OEM Version)" as "WinDVD"
  • "B's Recorder GOLD8 BASIC" as "B's Recorder"
  • "B's CLiP 6" as "B's CLiP"
● The display modes are referred as follows. ( ) indicates the terms in [Intel® Graphics Media Accelerator Driver for mobile] screen. To display the screen, select [start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) GMA Driver for Mobile].
  • Internal LCD (Notebook): The computer's display
  • External display (Monitor): External display
  • Simultaneous display (Intel® Dual Display Clone): The same screen is displayed on the internal LCD and the external display.
  • Extended desktop: The extended working area across the internal LCD and the external display.

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Getting Started

Read Me First

Models for Europe

(For model with a "CE" mark on the bottom of the computer)

Declaration of Conformity (DoC)

"Hereby, we declare that this Personal Computer is in compliance with the essential requirements and other relevant provisions of the Directive 1999/5/EC."

Hint:

If you want to get a copy of the original DoC of our products which relates to the R&TTE, please contact our web address: http://www.doc.panasonic.de

Contact and Pursuant to at the directive 2004/108/EC, article 9(2)

Panasonic Testing Centre

Panasonic Service Europe, a division of

Panasonic Marketing Europe GmbH

Winsbergring 15, 22525 Hamburg, F.R. Germany

Network connection.

The terminal equipment is intended for connection to the following public network;

In all the countries of European Economical Area;

- Public Switched Telephony Networks

Technical Features.

The terminal equipment includes the following features;

- DTMF dialing
- Maximum bitrate receiving mode: 56 kbit/s
- Maximum bitrate sending mode: 33.6 kbit/s

This product is designed to interwork with the Public Switched Telecommunication Networks in UK, Ireland, Netherlands, Sweden, Denmark, Finland, Switzerland, Luxembourg, Belgium, France, Germany, Spain, Portugal, Iceland, Greece, Italy, Norway, Austria, Poland, Hungary, Czech, Slovakia, Slovenia, Estonia, Latvia, Lithuania, Cyprus, Malta, Rumania, Bulgaria and Liechtenstein.

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(Only for model with a "CE ①" mark on the bottom of the computer)

Declaration of Conformity (DoC)

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Information of Countries intended for radio application:

The United Kingdom, The Netherlands, Sweden, The Federal Republic of Germany, France, Finland, The Kingdom of Belgium, Italy, Norway, The Swiss Confederation, Spain, Austria, Portuguese Republic, Czech Republic, Romania, The Republic of Estonia, Ireland, The Republic of Latvia, The Republic of Lithuania, The Republic of Poland, Denmark, The Republic of Hungary, The Grand Duchy of Luxembourg, Greece, Slovak Republic, The Republic of Slovenia

Read Me First

Models for UK

Warning

This apparatus must be earthed for your safety.

To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal household wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe.

For your safety, if you have any doubt about the effective earthing of the power point, consult a qualified electrician.

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience. A 3 amp fuse is fitted in this plug.

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 amps and that it is approved by ASTA or BSI to BS 1362.

Check for the ASTA mark ⟨⟩ or the BSI mark ♡ on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced. If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

IF THE FITTED MOULDED PLUG IS UNSUITABLE FOR THE SOCKET OUTLET IN YOUR HOME THEN THE FUSE SHOULD BE REMOVED AND THE PLUG CUT OFF AND DISPOSED OF SAFELY.

THERE IS A DANGER OF SEVERE ELECTRICAL SHOCK IF THE CUT OFF PLUG IS INSERTED INTO ANY 13 AMP SOCKET.

If a new plug is to be fitted please observe the wiring code as shown below. If in any doubt please consult a qualified electrician.

Warning: THIS APPLIANCE MUST BE EARTHED.

Important

The wires in this mains lead are coloured in accordance with the following code:

Green-and-yellow: Earth
Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows: The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ coloured GREEN or GREEN-and-YELLOW.

The wire which is coloured Blue must be connected to the terminal which is marked with the letter N or coloured BLACK.

The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

The mains plug on this equipment must be used to disconnect the mains power.

Please ensure that a socket outlet is available near the equipment and shall be easily accessible.

■ How to replace the fuse

Open the fuse compartment with a screwdriver and replace the fuse.
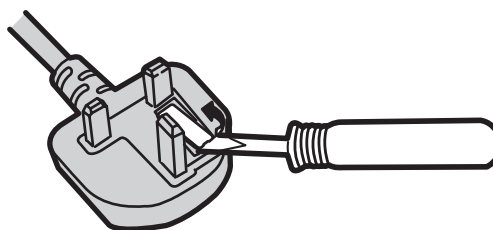
Warnings

● This equipment is not designed for connection to an IT power system.
   (An IT system is a system having no direct connections between live parts and Earth; the exposed-conducive-parts of the electrical installation are earthed.
   An IT system is not permitted where the computer is directly connected to public supply systems in the U.K.)
● Disconnect the mains plug from the supply socket when the computer is not in use.

This equipment is produced to BS800/1983.

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Important Safety Instructions

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, wash bowl, 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

19-E-1

Information to the User

<Only for model with wireless LAN>
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.

26-M-1

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.

15-E-1

## CD/DVD 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.

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Bottom

CLASS 1 LASER PRODUCT
LASER KLASSE 1
LASER CLASSE 1

12-1-1

Read Me First
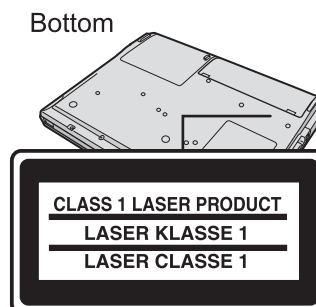
Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)
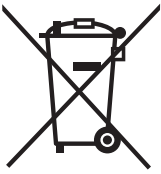
This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

Please dispose of this item only in designated national waste electronic collection schemes, and not in the ordinary dust bin.

For business users in the European Union
If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union
This symbol is only valid in the European Union.
If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

36-E-1

Precautions

THIS PRODUCT IS NOT INTENDED FOR USE AS, OR AS PART OF, NUCLEAR EQUIPMENT/SYSTEMS, AIR TRAFFIC CONTROL EQUIPMENT/SYSTEMS, OR AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS[1]. PANASONIC WILL NOT BE RESPONSIBLE FOR ANY LIABILITY RESULTING FROM THE USE OF THIS PRODUCT ARISING OUT OF THE FOREGOING USES.

[1] AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS include Class2 Electrical Flight Bag (EFB) Systems and Class1 EFB Systems when used during critical phases of flight (e.g., during take-off and landing) and/or mounted on to the aircraft. Class1 EFB Systems and 2 EFB Systems are defined by FAA: AC (Advisory Circular) 120-76A or JAA: JAA TGL (Temporary Guidance Leaflets) No.36.

Panasonic cannot guarantee any specifications, technologies, reliability, safety (e.g. Flammability/Smoke/Toxicity/Radio Frequency Emission, etc) requirements related to aviation standards that exceed the specifications of our COTS (Commercial-Off-The-Shelf) products.

39-E-1

This computer is not intended for use in medical equipment including life-support systems, air traffic control systems, or other equipment, devices or systems that are involved with ensuring human life or safety. Panasonic cannot be held responsible in any way for any damages or loss resulting from the use of this unit in these types of equipment, devices or systems, etc.

If a Malfunction Occurs, Immediately Unplug the AC Plug and the Battery Pack
• The Product is damaged
• Foreign object inside this product
• Smoke emitted
• Unusual smell emitted
• Unusually hot
Continuing to use this product while any of the above conditions are present may result in fire or electric shock.
• If a malfunction occurs, immediately turn the power off and unplug the AC plug, and then remove the battery pack. Then contact your technical support office.

Do Not Touch This Product and Cable When It Starts Thundering
Electric shock may result.

Do Not Connect the AC Adaptor to a Power Source Other Than a Standard Household AC Outlet
Otherwise, a fire due to overheating may result. Connecting to a DC/AC converter (inverter) may damage the AC adaptor. On an airplane, only connect the AC adaptor/charger to an AC outlet specifically approved for such use.

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 electric shock.

Do Not Pull or Insert the DC Plug If Your Hands Are Wet
Electric shock may result.

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.

Insert the AC Plug Completely
If the plug is not inserted completely, fire due to overheating or electric shock may result.
• Do not use a damaged plug or loose AC outlet.

Do Not Place Containers of Liquid or Metal Objects on Top of This Product
If water or other liquid spills, or if paper clips, coins, or foreign matter get inside this product, fire or electric shock may result.
• If foreign matter has found its way inside, immediately turn the power off and unplug the AC plug, and then remove the battery pack. Then contact your technical support office.

Do Not Disassemble This Product
There are high-voltage areas inside which may give you an electric shock if you should touch them. Do not touch the pins and circuit boards inside, and do not allow foreign matter to enter inside.
Also, remodeling or disassembly may cause a fire.

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Keep SD Memory Cards 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 Place This Product on Unstable Surfaces
If balance is lost, this product may fall over or drop, resulting in an injury.

Avoid Stacking
If balance is lost, this product may fall over or drop, resulting in an injury.

Do Not Keep the Computer Wherever There is a Lot of Water, Moisture, Steam, Dust, Oily Vapors, etc.
Otherwise, possibly resulting in fire or electric shock.

Do Not Leave This Product in High Temperature Environment Such as in a Sun-Heated Car, for a Long Period of Time
Leaving this product where it will be exposed to extremely high temperatures such as in a sun-heated car or in direct sunlight may deform the cabinet and/or cause trouble in the internal parts. Continued use in such a resulting condition may lead to short-circuiting or insulation defects, etc. which may in turn lead to a fire or electric shocks.

Hold the Plug When Unplugging the AC Plug
Pulling on the cord may damage the cord, resulting in a fire or electric shock.

Do Not Move This Product While the DC Plug Is Connected
The AC cord may be damaged, resulting in fire or electric shock.
• If the AC cord is damaged, unplug the DC plug immediately.

Use Only the Specified AC Adaptor With This Product
Using an AC adaptor other than the one supplied (attached to your product or supplied by Panasonic) may result in a fire.

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 electric shock, short circuit, or fire.

Take a Break of 10-15 Minutes Every Hour
Using this product for long periods of time may have detrimental health effects on the eyes or hands.

Do Not Look into the CD/DVD 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 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.

Use the Modem with a Regular Telephone Line
Connection to an internal phone line (on-premise switches) of a company or business office, etc. or to a digital public phone or use in a country or area not supported by the computer may result in a fire or electric shocks.

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.)

Do Not Use with Exposing the Skin to This Product for a Long Period of Time
Using this product with exposing the skin to the heat source of this product or AC adaptor for a long period of time can cause a low-temperature burn.

● Do not place the computer near a television or radio receiver.
● Keep the computer away from magnets. Data stored on the hard disk may be lost.

Interface Cable
Use of an interface cable longer than 3 m (9.84 feet) is not recommended.

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Read Me First

Precautions (Battery Pack)

Do Not Use with Any Other Product
The battery pack is rechargeable and was intended for the specified product. If it is used with a product other than the one for which it was designed, electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Charge the Battery Using the Methods Other Than Those Specified
If the battery is not charged using one of the specified methods, electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Throw the Battery Pack into a Fire or Expose It to Excessive Heat
Generation of heat, ignition or rupture may result.

Avoid Extreme Heat (Near the Fire, in Direct Sunlight, for Example)
Electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Insert Sharp Objects into the Battery Pack, Expose It to Bumps or Shocks, Disassemble, or Modify It
Electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Short the Positive (+) and Negative (-) Contacts
Generation of heat, ignition or rupture may result. Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.

Do Not Use This Product with a Battery Pack Other Than the One Specified
Use only the specified battery pack (CF-VZSU47U) with your CF-W5. Use of battery packs other than those manufactured and supplied by Panasonic may present a safety hazard (generation of heat, ignition or rupture).

- 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% (when Economy Mode (ECO) is enabled: 75%) 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). (➔ 📖 *Reference Manual* "Battery Power")
  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 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.

Getting Started

Description of Parts
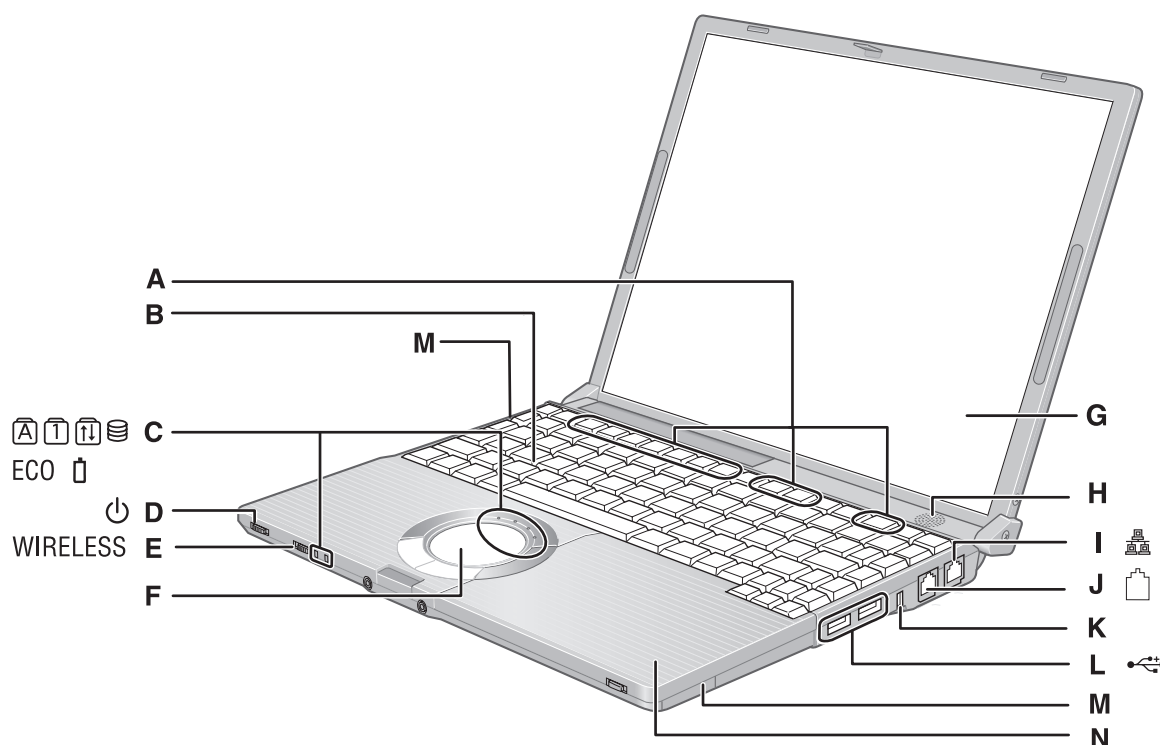
A : Function Key

→ 📖 *Reference Manual* "Key Combinations"

B : Keyboard

C : LED Indicator

   Ⓐ : Caps lock

   ① : Numeric key (NumLk)

   ⑪ : Scroll lock (ScrLk)

   🖥 : Hard disk drive status

  ECO : Economy Mode (ECO) status

→ 📖 *Reference Manual* "Battery Power"

   🔋 : Battery status

→ 📖 *Reference Manual* "Battery Power"

D : Power Switch

→ page 12

Power Indicator
- Off: Power off/Hibernation
- Green: Power on
- Blinking green: Standby

E : Wireless Switch

<Only for model with wireless LAN>
Switch the wireless devices to on (right side) or to off (left side).

→ 📖 *Reference Manual* "Wireless Switch Utility" "Wireless LAN"

CAUTION

When closing the disk cover, press down near the drive power/open switch (position of the arrow) to ensure that the cover is locked.

F : Touch Pad

→ 📖 *Reference Manual* "Using the Touch Pad"

G : LCD

H : Speaker

I : LAN Port

If the Mini Port Replicator is connected to the computer, connect the LAN cable to the LAN port on the Mini Port Replicator. You cannot use the LAN port on the computer.

→ 📖 *Reference Manual* "LAN"

J : Modem Port
- Be sure to use the included modem telephone cable, and insert the ferrite core side of modem telephone cable into the modem port on the computer.
- Do not move/remove the ferrite core of modem telephone cable.

90 mm or less

→ 📖 *Reference Manual* "Modem"

K : Security Lock

You can connect a Kensington cable. Refer to the instruction manual of the cable. The security lock and cable is a theft prevention device. Matsushita Electric Industrial Co., Ltd. will bear no responsibility in the event of theft.

L : USB Ports

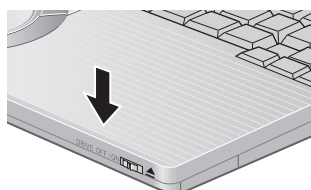→ 📖 *Reference Manual* "USB Devices"

M : Wireless LAN Antenna

<Only for model with wireless LAN>
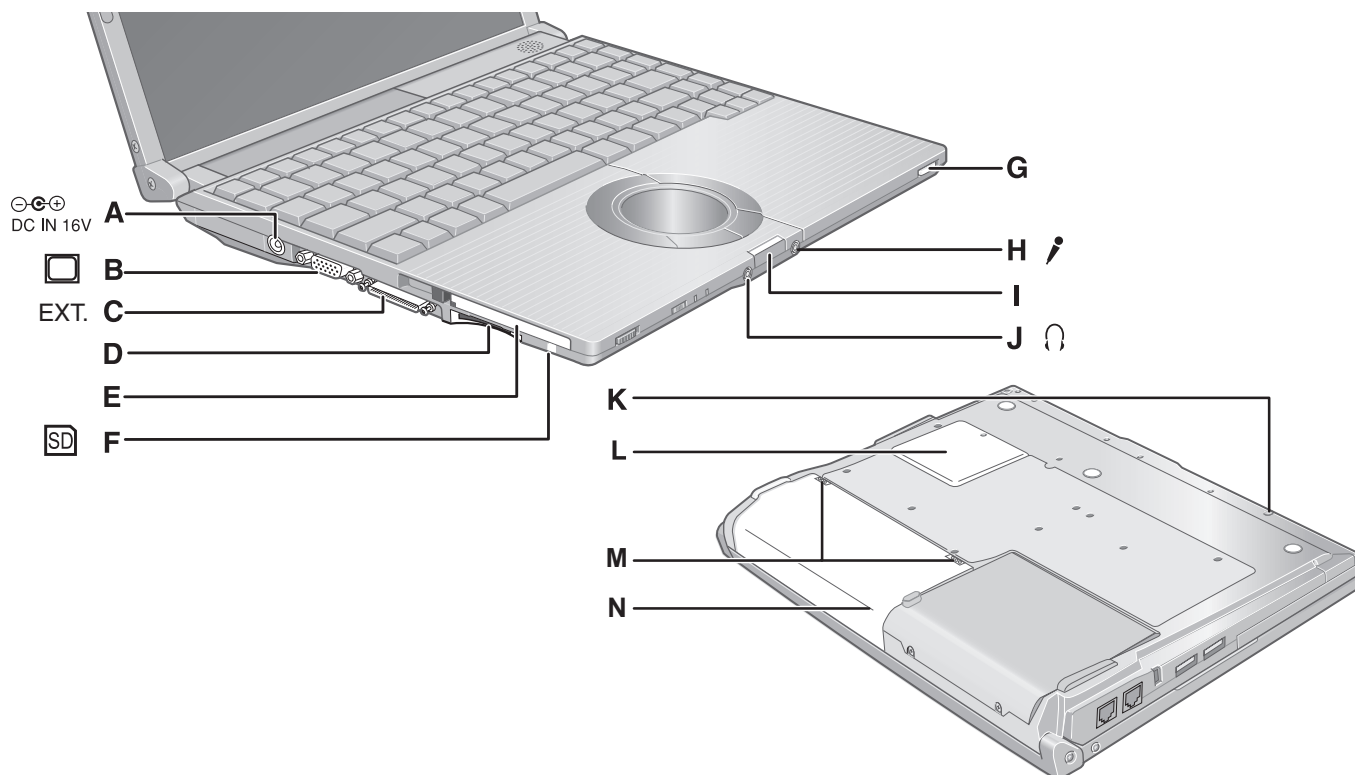
→ 📖 *Reference Manual* "Wireless LAN"

N : CD/DVD Drive

→ 📖 *Reference Manual* "CD/DVD Drive"

Description of Parts

⊖‐©‐⊕
DC IN 16V **A**

▢ **B**

EXT. **C**

D

E

SD **F**

G

H ✎

I

J ∩

K

L

M

N

A :DC-IN Jack

B :External Display Port
If the Mini Port Replicator is connected to the computer, connect the external display to the external display port on the Mini Port Replicator. You cannot use the external display port on the computer.

→ 📖 *Reference Manual* "External Display"

C :Mini Port Replicator Connector
Connect the Mini Port Replicator (optional).

→ 📖 *Reference Manual* "Mini Port Replicator"

D :SD Memory Card Slot

→ 📖 *Reference Manual* "SD Memory Card"

E : PC Card Slot

→ 📖 *Reference Manual* "PC Cards"

F : SD Memory Card Indicator
Blinking: During access.

→ 📖 *Reference Manual* "SD Memory Card"

G :CD/DVD Drive Power/Open Switch
  • Slide the switch to the right to open the disk cover.
  • Slide the switch to the left to turn on/off the drive power.
  CD/DVD Drive Indicator
  • Off: Drive power is off.
  • Green: Drive power is on, but the drive is not accessed.
  • Blinking green: Drive power is on, and the drive is being accessed.

H :Microphone Jack
A condenser microphone can be used. If other types of microphones are used, audio input may not be possible, or malfunctions may occur as a result.
  • When recording in stereo using a stereo microphone:

    Double-click 🔊 in the notification area, click
    [Options] - [Properties], and add a check mark for [Recording], click [OK] - [Options] - [Advanced Controls] - [Advanced], remove a check mark for [Mono Microphone], and then click [Close].
  • When using a monaural microphone with a 2-terminal plug:
    With the settings outlined above, only audio on the left track will be recorded.
    When monitoring the microphone audio using headphones, sounds on the left track cannot be heard, regardless of the above settings. This is a result of the computer's specifications, and is not a malfunction.

I : Latch
When closing the display, press down firmly from above until the latch is firmly closed (locked).

J : Headphone Jack
You can connect headphones or amplified speakers. When they are connected, audio from the internal speakers is not heard.

K :Emergency Hole

→ 📖 *Reference Manual* "CD/DVD Drive"

L : RAM Module Slot
  → page 18

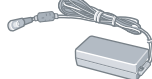**M :Battery Latches**
  → page 11

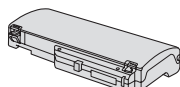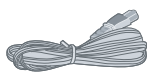**N :Battery Pack**

10

First-time Operation

■ **Preparation**

① Check and identify the supplied accessories.
If you do not find the described accessories, contact your technical support office.

- **AC Adaptor . . . . 1**   • **AC Cord . . . . . . 1**   • **Battery Pack . . . 1**   • **Modem Telephone Cable 1**

Model No: CF-AA1623A

Model No: CF-VZSU47

- **Operating Instructions (This book) . . 1**
- **Product Recovery DVD-ROM. 1**

- **Windows® Book 1**

● You will need the serial number when you reinstall B's Recorder/B's CLiP using Product Recovery DVD-ROM (➔ page 28).

② Read the LIMITED USE LICENSE AGREEMENT before breaking the seal on the computer's packaging (➔ page 31).
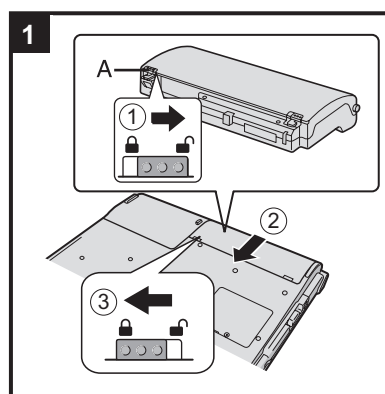
## 1 Insert the battery pack.

① Turn the computer over and slide the left latch (A) to the unlocked position (🔓).
② Insert the battery pack in the correct direction until it securely fits the connector.
③ Slide the left latch (A) to the locked position (🔒).
(Right latch is locked automatically.)

CAUTION
● Make sure the latch is securely locked. Otherwise the battery pack may fall when you carry the computer.
● Do not touch the terminals of the battery pack and the computer. Doing so can make the terminals dirty or damaged, and may cause malfunction of the battery pack and the computer.
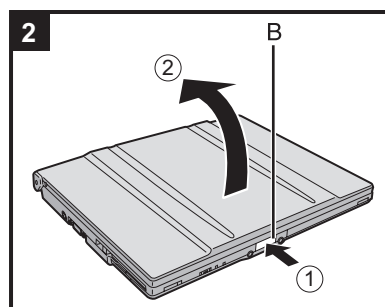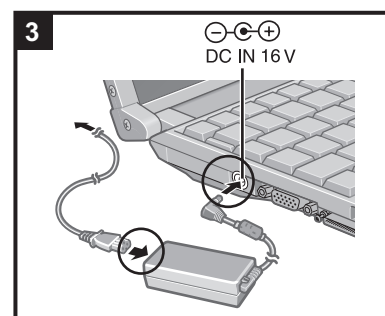

2 Open the display.

① Press and hold the latch (B) located at the front.
② Lift open the display.

CAUTION
● Do not open the display wider than necessary (140° 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.


DC IN 16 V

## 3 Connect your computer to a power outlet.

The battery charging starts automatically.

CAUTION
● Do not disconnect the AC adaptor and do not switch the wireless switch to on until the first-time operation procedure is completed.
● When using the computer for the first time, do not connect any peripheral device except the battery pack and AC adaptor.
● **Handling the AC adaptor**
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.

First-time Operation
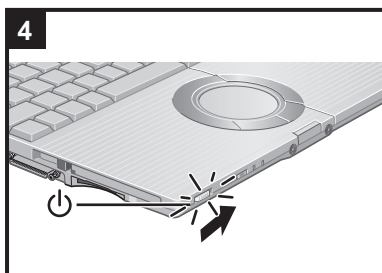
4   Turn on the computer.

Slide and hold the power switch ⏻ for approximately one second until the power indicator ⏻ lights.

CAUTION
- Do not slide the power switch repeatedly.
- The computer will forcibly be turned off if you slide and hold the power switch for four seconds or longer.
- Once you turn off the computer, wait for ten seconds or more before you turn on the computer again.
- Do not perform the following operation until the hard disk drive indicator 🖴 turns off.
  - Connecting or disconnecting the AC adaptor
  - Sliding the power switch or CD/DVD drive power/open switch
  - Touching the keyboard or touch pad
  - Closing the display
- Do not change the Setup Utility until completing step *5*. If you do so, Windows setup may not operate properly.

5   Setup Windows.

Follow the on-screen instructions.
- The computer will restart after the setup is complete.

  To go to the next step, wait until the hard disk drive indicator 🖴 has turned off.

CAUTION
- When you set date/time/time zone and click [Next], the screen may not go to the next step for a few minutes. Do not touch the keyboard or touch pad, and wait until the screen changes.

<For MUI OS model>
- The keyboard will operate as the US keyboard until the keyboard setting is changed. Because of this, some alphabets shown on display may differ from inputted ones.

  To avoid the accidental selections, during setting up Windows,
  - Use the touch pad to make some selections.
  - Press the NumLock key and input in the Ten-key mode to input numbers.
- To match the languages, change the language settings after setting up Windows (➜ page 13). Do not change the settings in [To change system or these settings, click Customize] of [Regional and Language Options] during setting up Windows.

**6   <For MUI OS model>
        Install Adobe Reader**

NOTE

Install Adobe Reader to read the Important Tips and the Reference Manual.

Click [start] - [Run], input the following, then click [OK].
English: [c:\util\reader\m\AdbeRdr70_enu_full.exe]
Czech: [c:\util\reader\cs\AdbeRdr70_cze_full.exe]
Croatian: [c:\util\reader\yx\AdbeRdr70_hrv_full.exe]
Danish: [c:\util\reader\da\AdbeRdr70_dan_full.exe]
Dutch: [c:\util\reader\nl\AdbeRdr70_nld_full.exe]
Finnish: [c:\util\reader\fi\AdbeRdr70_suo_full.exe]
French: [c:\util\reader\f\AdbeRdr70_fra_full.exe]
German: [c:\util\reader\g\AdbeRdr70_deu_full.exe]
Greek: [c:\util\reader\el\AdbeRdr70_gre_full.exe]
Hungarian: [c:\util\reader\hu\AdbeRdr70_hun_full.exe]
Italian: [c:\util\reader\t\AdbeRdr70_ita_full.exe]
Norwegian: [c:\util\reader\no\AdbeRdr70_nor_full.exe]
Polish: [c:\util\reader\pl\AdbeRdr70_pol_full.exe]
Portuguese: [c:\util\reader\pt\AdbeRdr70_ptb_full.exe]
Romanian: [c:\util\reader\ro\AdbeRdr70_rum_full.exe]

Russian: [c:\util\reader\ru\AdbeRdr70_rus_full.exe]
Spanish: [c:\util\reader\p\AdbeRdr70_esp_full.exe]
Slovenian: [c:\util\reader\sl\AdbeRdr70_slv_full.exe]
Swedish: [c:\util\reader\s\AdbeRdr70_sve_full.exe]
Turkish: [c:\util\reader\tr\AdbeRdr70_tur_full.exe]

---

7   <For MUI OS model>
Change the language settings

<Languages installed in this computer>

·English ·Bulgarian ·Croatian ·Czech ·Danish ·Dutch ·Estonian ·Finnish ·French ·German ·Greek ·Hungarian ·Italian ·Latvian ·Lithuanian ·Norwegian ·Polish ·Portuguese ·Romanian ·Russian ·Spanish ·Swedish ·Slovak ·Slovenian ·Turkish

Change the language settings in the following menu.
[Start] - [Control Panel] - [Date, Time, Language, and Regional Options] - [Regional and Language Options]
- • [Regional Options] - [Standards and Formats]
- • [Languages] - [Language used in menus and dialogs]
- • [Languages] - [Details] - [Default input language]
- • [Advanced] - [Language for non-unicode Programs]

NOTE
- When you use MUI OS and localized OS versions together on the same network, use English computer names on localized versions of Windows.
- Some UI (User Interface) strings remain in English even if the user's UI is set to another language.
  For more information, refer to "c:\windows\mui\relnotes.txt".
- If you change the language in [Languages] - [Language used in menus and dialogs], the desktop color will be changed when logging on to Windows next time. The desktop color can be changed by following the procedure below.
  Click [start] - [Control Panel] - [Appearance and Themes] - [Display] - [Desktop] and select color from [Color], then click [OK].

---

8   Create a new account.

Click [start] - [Control Panel] - [User Accounts] - [Create a new account].

CAUTION
- Remember your password. If you forget the password, you cannot use the Windows operation system. Creating a password reset disk beforehand is recommended.

---

9   Change the internal CD/DVD drive letter if necessary.

→ *Reference Manual* "CD/DVD Drive"

NOTE
- **Regarding Windows XP**
  You can select the Classic view of Control Panel or the Classic Start menu. You can also change the way a user logs on or off. This manual explains using the Windows XP default setting (not Classic view or Classic Start menu etc.).
- **Windows Update**
  You can update to the latest patches and service packs for Windows with the following menus.
  [start] - [All Programs] - [Windows Update]
  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.
- **If the message "Your computer might be at risk" is displayed**
  Select (red icon) on the notification area and make the appropriate settings. The Windows Security Center regularly gives you notice so that you can make the optimum settings. This is not an error message and you can use the computer. However, making appropriate measures is recommended to reduce the risk of virus and other attacks.
- **If you hear the sounds from CD/DVD drive**
  In the following situations, the motor from the CD/DVD drive can be heard.
  • Immediately after the computer or CD/DVD drive is turned on
  • When a CD or DVD is playing
  The sounds you hear are normal operating sounds created by the motor in the CD/DVD drive operating; it is not a malfunction.

First-time Operation

● **PC Information Viewer**
This computer periodically records the management information including the hard disk information such as number of hours powered-on, number of times powered-on, internal temperature, replacement sector. The maximum data volume for each record is 750 byte. These information are only used for estimating the cause when the hard disk goes down by any possibility. They are never sent to outside via network nor used for any other purpose except for the purpose described the above.
To disable the function, add the check mark for [Disable the automatic save function for management information history] in [Hard Disk Status] of PC Information Viewer, and click [OK].

(➔ 📖 *Reference Manual* "Check the Computer's Usage Status")

■ **When Starting Up/Shutting Down**

● 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.

● Note that the computer consumes electricity even when the computer power is off. If the battery pack is fully charged, the battery will fully discharge in the following period of time:
  • When power is off: Approx. 2 months
  • In standby: Approx. 4 days
  • In hibernation: Approx. 5 days
  If the LAN cable is not connected to the LAN port, the period of time listed above will become slightly longer.
  If "Wake up from LAN" is disabled, the period of time in standby will become slightly longer, and the period of time in hibernation will become about the same as that in power-off.

CAUTION
● Do not do the following
  • Connecting or disconnecting the AC adaptor
  • Sliding the power switch or CD/DVD drive power/open switch
  • Touching the keyboard, touch pad or external mouse
  • Closing the display

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On-screen Manual

You can access the Reference Manual and the Important Tips on the computer screen after completing the "First-time Operation".
When you access the Reference Manual and the Important Tips for the first time, the License Agreement of the Adobe Reader may be displayed. Read it carefully and select [Accept] to proceed.

■ Reference Manual

The Reference Manual contains the practical information to help you fully enjoy the computer's performance.

To access the Reference Manual:
Click [start] - [Reference Manual].

Contents
- Read Me First
- Using the Touch Pad
- Key Combinations
- Battery Power
- Computing on the Road
- Standby or Hibernation Functions
- Security Measures
- CD/DVD Drive
- WinDVD
- B's Recorder/B's CLiP
- PC Cards
- SD Memory Card

- SD Security
- Mini Port Replicator
- External Display
- USB Devices
- Modem
- LAN
- Wireless Switch Utility
- Wireless LAN
- Setup Utility
- Icon Enlarger
- Loupe Utility

- DMI Viewer
- Recover Pro
- Troubleshooting (Advanced)
- Check the Computer's Usage Status
- Protecting Your Computer from Viruses
- Update Windows to its Latest Version
- Technical Information

NOTE
- [ACPI Multiprocessor PC] is actually displayed on the screen, however [ACPI Uniprocessor PC] is written on the *Reference Manual* "USB Devices".

■ Important Tips

The Important Tips will provide you with the helpful information about the battery. Read to use the battery pack in the optimum condition to obtain longer operation time.

To access the Important Tips:

Double-click [Important Tips] on the desktop.

- Alternatively click [start] - [All Programs] - [Panasonic] - [On-Line Manuals] - [Important Tips].

NOTE
- When Adobe Reader update notice is displayed, we recommend you follow the on-screen procedure and update. See http://www.adobe.com/ for the latest version of Adobe Reader.

Useful Information

Handling and Maintenance

Operation Environment

- Place the computer on a flat stable surface. Do not place the computer upright. If the computer is exposed to an extremely strong impact, it may become inoperable.
- Temperature:　　Operation: 5 °C to 35 °C
　　　　　　　　　Storage: -20°C to 60 °C
　Humidity:　　　Operation: 30% to 80% RH (No condensation)
　　　　　　　　　Storage: 30% to 90% RH (No condensation)
　Even within the above temperature/humidity ranges, using for a long time in an extreme environment will result in the product deterioration and will shorten the product life.
- Do not place the computer in the following areas, otherwise the computer may be damaged.
  - Near electronic equipment. Image distortion or noise may occur.
  - Near magnets or in magnetic fields.
  - In extremely high or low temperature.
- As the computer can become hot during operation, keep it away from items that are sensitive to heat.

Handling Cautions

This computer is designed to minimize shock to parts such as the hard disk drive, but no warranty is provided against any trouble caused by shock. Be extremely careful when handling the computer.

- When carrying the computer:
  - Turn off the computer.
  - Remove all external devices, cables, cards and other protruding things.
  - Remove a disk in the CD/DVD drive.
  - Do not drop or hit the computer against solid objects.
  - Do not leave the display open.
  - Do not grip the display part.
- When you board an airplane, take the computer with you and never put it in your checked luggage. When using the computer on airplane, follow the airline's instructions.
- When carrying a spare battery, put it in a plastic bag to protect its terminals.
- This computer contains a magnet and magnetic products at the locations circled in the illustration at right. Avoid leaving metallic object or magnetic media in contact with these areas.
- The touch pad is designed to be used with a finger tip. Do not place any object on its surface and do not press down strongly with sharp-pointed or hard objects that may leave marks (e.g., nails, pencils and ball point pens).
- Avoid any harmful substances such as oil from getting into the touch pad. The cursor may not work correctly.
- If the computer is being carried in a soft bag with the battery pack removed, avoid undue pressure on the body of the computer in a crowded place, etc., as this may result in damage to the LCD.
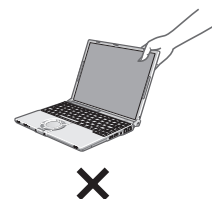
■　When using peripheral devices

Follow these instructions and the Reference Manual to avoid any damage to the devices. Carefully read the instruction manuals of the peripheral devices.
- Use the peripheral devices conforming to the computer's specifications.
- Connect to the connectors in the correct direction.
- If it is hard to insert, do not try forcibly but check the connector's shape, direction, alignment of pins, etc.
- If screws are included, fasten them securely.

■　Preventing your computer from unauthorized use via wireless LAN

<Only for model with wireless LAN>
- Before using wireless LAN, make the appropriate security settings such as data encryption.

■　Computrace® Software

Computrace® software tracks your stolen computer.

Perform the following steps before installing Computrace® software.

- Computrace® software is not included or installed in this computer.

> **CAUTION**
> - You will be unable to set [Computrace (R) BIOS Module] to [Disable] once you have set to [Enable]. Do not change the setting when not used.

- Even if you have set [Computrace (R) BIOS Module] to [Enable], this setting may return to [Disable] after repairs to the motherboard, etc. have been made.

<hr>

NOTE
- Consult Absolute Software Corp. before disposal.
- Refer to the following URL for Computrace® software for installation and available service regions. Note that this service is only available in certain regions.
  http://www.absolute.com

<hr>

1   **Turn on or restart the computer, and press F2 while [Panasonic] boot screen is displayed.**
The Setup Utility starts up.
- If the password is requested, enter the Supervisor Password.

2   **Select the [Security] menu, then select [Computrace (R) Sub-Menu] and press Enter.**

3   **Select [Computrace (R) BIOS Module], and set to [Enable].**

4   **At the confirmation message, select [Execute] and press Enter.**

5   **At the reconfirmation message, select [Execute] and press Enter.**

6   **Press F10.**
At the confirmation message, select [Yes] and press Enter.
The computer restarts.

Maintenance

To clean the LCD panel and touch pad
Wipe lightly with a gauze or other dry, soft cloth.

To clean areas other than the LCD panel and touch pad
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

<hr>

CAUTION
- Do not use benzene, thinner, or rubbing alcohol since it may adversely affect the surface causing discoloration, etc. Do not use commercially-available household cleaners and cosmetics, as they may contain components harmful to the surface.
- Do not apply water or detergent directly to the computer, since liquid may enter inside of the computer and cause malfunction or damage.

Useful Information

Expanding Memory

Use RAM modules that comply with the specifications below. Using any other module may cause malfunction or result in computer failure.

RAM module specifications:
DDR2 SDRAM, 172 pins, Micro DIMM, 1.8 V, PC2-4200

CAUTION

- 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 various sources for recommended RAM module.
- 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.
- 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.

Preparation

① Turn off your computer.
  • Do not use the standby or hibernation.
② Disconnect the AC adaptor and remove the battery pack.
③ Remove the screw (A) and the cover on the bottom of the computer.
  • Use the appropriate screw driver so as not to strip the thread of screw.
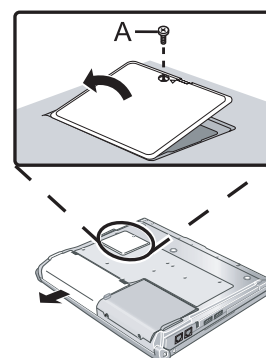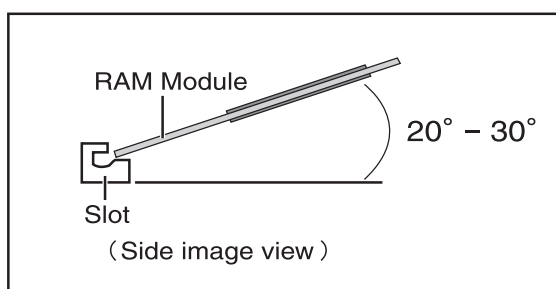
Inserting the RAM Module

**1   Place the RAM module lightly in parallel with the RAM module slot so that the notch (B) of the RAM module and the protrusion (C) of the RAM module slot is in the same direction.**

- The gold terminals are visible at this point.
- RAM module is at an angle of 20° -30° with the horizontal line.

RAM Module

C B RAM Module   Gold Terminals
         Slot

(Front image view)
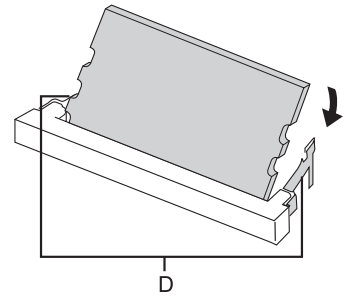
RAM Module

20° - 30°
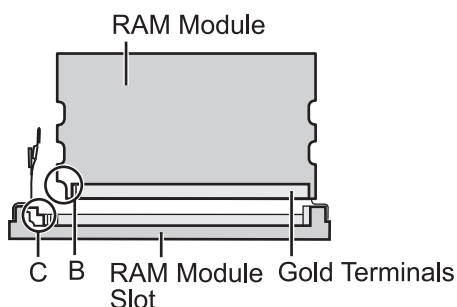
Slot
（Side image view）

2   Insert the RAM module parallel to the slot firmly until the gold terminals are invisible.

- If it is hard to insert the RAM module, do not try forcibly but check the module's direction.
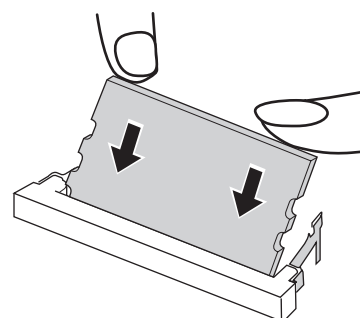
3 Press the RAM module down until the right and left hooks (D) lock into place.

● When pressing down the module, the right and left hooks will open slightly and will return after locking.
● If it is hard to press down the RAM module, do not try forcibly but check the module's direction.

4 Set the cover and battery pack back.

NOTE
● If the RAM module is recognized correctly, the total size of this computer's memory and RAM module memory is displayed on the [Information] menu of the Setup Utility.
If the RAM module is not recognized, turn off the computer and insert it again.

Removing the RAM Module

1 Carefully open the left and right hooks (E).
The RAM module will be raised.
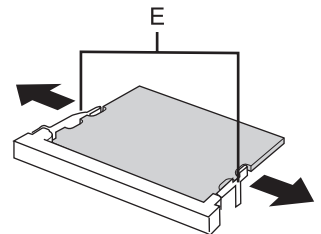
2 Carefully remove the RAM module from the slot.

3 Set the cover and battery pack back.

Useful Information

Hard Disk Backup Function (Recover Pro)
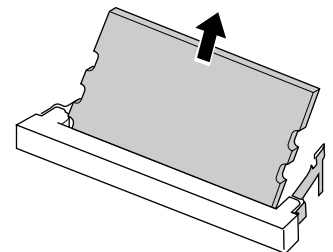
The Recover Pro creates a backup area (storage area) on the hard disk to back up (store) the hard disk data, and restores the backup data to its original location when it is lost or corrupted by operational errors or other factors.
You do not need external media or peripheral devices to back up or restore hard disk data on this computer.
At purchase, the Recover Pro is not installed. Install using the instructions below.

> The Recover Pro cannot back up or restore data correctly if a hard disk problem occurs during data backup or restoring.
> If an error occurs due to an unexpected malfunction, incorrect operation, or other reason while data is being restored, the hard disk data (data before restoration) may be lost.
> Matsushita Electric Industrial Co., Ltd. will bear no responsibility for any damage suffered (including loss of data) as a result of the use of this function.

The Recover Pro provides 3 types of backup as follows:
- Quick Backup: Scheduled backup of the updated data
- File Backup: File backup at file save and change
- Complete Backup: Backup of the entire data on the internal hard disk

Here, we will explain the procedures for installation, complete backup (backing up hard disk contents in case Windows cannot be booted), and complete restore (recovering the hard disk data to its condition at the time of the complete backup).
For further information, refer to the software's online manual (➔ page 21).

CAUTION
- All operations should be executed with the AC adaptor connected. Do not turn the power off while operations are in progress. If the power is turned off while installation, backup, or restore operations are in progress, these operations may not function properly, and it may be impossible to start Windows. Also, do not press any keys or slide any switches, including hot keys.
- When restarting the computer, the message "Check file system on C:" will appear. Follow the on-screen instructions. Do not skip the check process.
- Make sure you allow enough space on the hard disk when choosing settings during installation. To change these settings you must reinstall Recover Pro.
  To execute Complete Backup reliably, we recommend performing [Typical] installation in the following cases.
  • Hard disk with a single partition
  • Immediately after reinstalling software (when more than half of the entire space of the hard disk is available) (➔ page 23)
- Be sure to use the internal hard disk drive to create the backup area. Never use disk or device other than the internal hard disk drive.
- Some software (security software, backup software, encryption software, or hard disk accessible specific software, etc.) may be incompatible with Recover Pro.
  For further information, refer to:
  http://www.phoenix.com/en/Customer+Services/White+Papers-Specs/Recover+Pro/default.htm
- When using Personal Secure Drive (➔ 📖 *Installation Manual* of "Trusted Platform Module (TPM)"), do not execute File Backup for Personal Secure Drive.
- The "Create recovery CD-DVD" function in Recover Pro is designed to help you save complete backup data to CD or DVD. When using the "Create recovery CD-DVD", you can view the complete backup data on the hard disk, but take care to avoid accidentally deleting this data.

Installation

Preparation
- Connect the AC adaptor.

1 Log on to Windows as an administrator.

2 Close all programs.

3 Disable anti-virus software.

4 Click [start] - [Run], enter [c:\util\rcvpro\setup.exe], and click [OK].
The InstallShield Wizard screen appears.

5 Click [Next].
Follow the on-screen instructions.
Carefully read the License Agreement, and click [I accept the agreement.].

- The computer restarts several times to complete installation. appears in the notification area.

CAUTION
- During the installation, the screen may become black (no display) momentarily. This is not a malfunction.
- If you select [Typical] in installation, approximately 40% (max.) of the hard disk drive space is allocated as the backup area.
- You cannot change the size of backup area after creation.

Complete Backup

Backs up all data on the hard disk.

Preparation
- Connect the AC adaptor.

1   Log on to Windows as an administrator.

2   Close all programs.

3   Click [start] - [All Programs] - [Phoenix Applications] - [Phoenix Recover Pro 6].
"Recover Pro 6" screen appears.

4   Click [Complete Backup], and click [Yes].
- The computer restarts, and "Recover Pro 6" screen appears.
Follow the on-screen instructions.

NOTE
- You can completely backup only one set of the whole data in the hard disk to the backup area.
- Do not slide the power switch while using the Recover Pro.

Complete Restore

This function uses the data created during complete backup. It restores the hard disk data to the condition when you performed the complete backup. Files created and changes made to settings after the latest complete backup is made will be deleted.

Preparation
- Connect the AC adaptor.

1   Click [start] - [All Programs] - [Phoenix Applications] - [Phoenix Always Launcher] and click [Run].
- The computer restarts, and "Phoenix Always" screen appears.
Alternatively turn on or restart the computer, and hold down **F4** while [Panasonic] boot screen is displayed until "Phoenix Always" screen appears.

2   Click [Protect / Recover], and click [Phoenix Recover Pro 6].
- "Recover Pro 6" screen appears.

3   Click [Complete Restore].
Follow the on-screen instructions.

NOTE
- Do not slide the power switch while using the Recover Pro.

■   **To access the online manual**
① Click [start] - [All Programs] - [Phoenix Applications] - [Docs], and double-click [UserGuides].
② Double-click the file of Recover Pro user's guide or Phoenix Always user's guide.

Hard Disk Data Erase Utility

When disposing the computer or transferring the ownership, erase all hard disk data in order to avoid data leakage. Even if you erase the data or initialize the hard disk using normal Windows commands, the data can be read with some special software. Use the hard disk data erase utility to erase the data completely.
Note that transferring of the ownership without uninstalling the commercial software will be a violation of the software's license agreement.

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.

CAUTION
- When the hard disk contains the Recover Pro backup data, the Recover Pro backup area is lost as well.

<For MUI OS model>
- To input numbers, press the NumLock key and input in the Ten-key mode.
- For German keyboard, press **Z** when you need to press **Y**.

NOTE
- Even if hard disk data erase is performed, the number of times of DVD's region code setting will not be reset.
- This utility cannot erase data for specific partitions. The entire hard disk data will be erased.

Preparation
- Prepare the Product Recovery DVD-ROM (included).
- Remove all peripherals.
- Connect the AC adaptor and do not remove it until hard disk data erase is complete.

1 **Turn on the computer, and press F2 while [Panasonic] boot screen is displayed.**
The Setup Utility starts up.
- If the password is requested, enter the Supervisor Password.

2 **Press F9.**
At the confirmation message, select [Yes] and press **Enter**.

3 **Select the [Boot] menu, then select [USB CDD] and press F6 until [USB CDD] is at the top of [Boot priority order].**

4 **Set the Product Recovery DVD-ROM into the CD/DVD drive.**
- When the disk cover does not open
① Press **F10**.
At the confirmation message, select [Yes] and press **Enter**.
The computer will restart.
② Press **F2** while [Panasonic] boot screen is displayed.
③ Set the Product Recovery DVD-ROM.

5 **Press F10.**
At the confirmation message, select [Yes] and press **Enter**.
The computer will restart.
- If [Enter Password] is displayed during the following procedures, input the Supervisor Password or the User Password.

6 **Press 2 to execute [2. [Erase HDD]].**
- To cancel this operation, press **0**.

7 **At the confirmation message, press Y.**

8 **When [<<< Start menu >>>] is displayed, press Enter.**
The approximate time required for erasing data will be displayed.

9 **Press Space.**
At the confirmation message, press **Enter**.
The hard disk erase process starts. When the operation is completed, the "Hard disk data has been deleted." message will appear. If a problem has occurred during the operation, an error message will appear.
- To cancel partway, press **Ctrl** + **C**. The data erasure will be up to that point.

10 **Remove the Product Recovery DVD-ROM, and then press any key to turn off the computer after the message "Hard disk data has been deleted." is displayed.**

22

Useful Information

Reinstalling Software

Reinstalling software will return the computer to the default condition. When you reinstall the software, the hard disk data including the backup data of the Recover Pro will be erased.
Back up important data to other media or an external hard disk before reinstallation.

Preparation
- Prepare the Product Recovery DVD-ROM (included).
- Remove all peripherals.
- Connect the AC adaptor and do not remove it until reinstallation is complete.

CAUTION
- If you have installed the Recover Pro (➜ page 20), select [1] or [2] in the step *8* below.
  If you select [3], the Recover Pro will no longer function properly.
  - Only when you want to save the data which you stored in the separate partitions other than the first partition and the Recover Pro backup area, select [3] in the step *8* below and perform the following steps.
    ① After reinstallation, backup the data to external media (e.g., removable disk).
    ② Perform the reinstallation procedure again, and select [1] or [2] in the step *8*.
    ③ Return the data backed up in external media to the internal hard disk.

<For MUI OS model>
- To input numbers, press the NumLock key and input in the Ten-key mode.
- For German keyboard, press **Z** when you need to press **Y**.

NOTE
- Even if reinstallation is performed, the number of times of DVD's region code setting will not be reset.

1   Turn on the computer, and press F2 while [Panasonic] boot screen is displayed.
The Setup Utility starts up.
- If the password is requested, enter the Supervisor Password.

2   Write down all of the contents of the Setup Utility and press F9.
At the confirmation message, select [Yes] and press **Enter**.

3   Select the [Boot] menu, then select [USB CDD] and press F6 until [USB CDD] is at the top of [Boot priority order].

4   Set the Product Recovery DVD-ROM into the CD/DVD drive.
- When the disk cover does not open
① Press **F10**.
   At the confirmation message, select [Yes] and press **Enter** .
   The computer will restart.
② Press **F2** while [Panasonic] boot screen is displayed.
③ Set the Product Recovery DVD-ROM.

5   Press F10.
At the confirmation message, select [Yes] and press **Enter**.
The computer will restart.

6   Press 1 to execute [1. [Recovery]].
The License Agreement screen appears.
- To cancel partway, press **0**.

7   Press 1 to select [1. Yes, I agree to the provisions above and wish to continue!].

8   Select the settings.
- [2]: Enter the size of operating system partition and press **Enter**.
         (The size of data partition will be determined by subtracting the operating system partition size from the maximum size.)
- [3]: Windows will be installed in the first partition.
         (If the size of the first partition is smaller than the specific value, installation will not be possible.)

Reinstalling Software

9   At the confirmation message, press $\overline{Y}$.
Reinstallation starts automatically. (It will take approximately 20 minutes.)
- Do not interrupt reinstallation, for example by turning off the computer or pressing **Ctrl** + **Alt** + **Del**. Otherwise reinstallation may become unavailable as Windows may not start up or the data may be corrupted.

10   Remove the Product Recovery DVD-ROM, and then press any key to turn off the computer.

11   Turn on the computer, and press $\overline{F2}$ while [Panasonic] boot screen is displayed.
The Setup Utility starts up.
- If the password is requested, enter the Supervisor Password.

12   Press $\overline{F9}$.
At the confirmation message, select [Yes] and then press **Enter**.
The Setup Utility settings excluding the password(s) will return to the default values.

13   Press $\overline{F10}$.
At the confirmation message, select [Yes] and press **Enter**.
The Setup Utility will close, and the computer will restart.

14   Perform the first-time operation (➜ page 12).

15   Start the Setup Utility and change the settings as necessary.

16   Perform Windows Update.

Troubleshooting (Basic)/Error Code/Message

Troubleshooting (Basic)

Follow the instructions below when a problem has occurred. There is also an advanced troubleshooting guide in the "Reference Manual". For a software problem, refer to the software's instruction manual. If the problem persists, contact your technical support office. You can also check the computer's status in the PC Information Viewer (➔ 📖 *Reference Manual* "Check the Computer's Usage Status").

■ Starting Up and Standby and Hibernation Mode

The computer does not power on/ The power indicator or battery indicator is not lit.	● Connect the AC adaptor. ● Insert a fully charged battery. ● Remove the battery pack and the AC adaptor, then connect them again. ● If an additional RAM module has been inserted, remove the RAM module and check to see if the RAM module is the recommended one. (➔ page 18) ● When the CPU temperature is high, the computer may not start up to prevent overheating of the CPU. Wait until the computer cools down, and then turn the power on again. If the computer does not power on even after cooling down, contact your technical support office.
Windows does not start up.	● Remove all peripheral devices. • If a device is connected to the USB port, disconnect the device or set [Legacy USB Support] to [Disable] in the [Advanced] menu of the Setup Utility. ● If an additional RAM module has been inserted, remove the RAM module and check to see if the RAM module is the recommended one. (➔ page 18) ● If the power indicator is lit, slide the power switch for four seconds or longer to turn off, then turn on again. ● Using the following procedure, start up in Safe Mode, and check the error details. ① Turn on the computer, and when the [Panasonic] boot screen disappears (after entering the password[*1] if one is set) hold down **F8**. ② Release the key when the Windows Advanced Options Menu appears, and with **↑** or **↓**, select [Safe Mode], then press **Enter**. Follow the onscreen instructions. [*1] Supervisor Password or User Password set with the Setup Utility ● Press **F9** in the Setup Utility (➔ page 28 "To start the Setup Utility") to return the Setup Utility settings (excluding the passwords) to the default values. Start the Setup Utility and make the settings again.
There is a beep sound, and either "Extended RAM Module Failed" or "Standard RAM Failed" appears	● If "Extended RAM Module Failed" appears, the RAM module is not correctly inserted. Turn off the computer, check that the RAM module is a recommended module, then insert it correctly. ● If "Standard RAM Failed" appears, contact your technical support office.
Cannot boot from internal CD/DVD drive	● Make sure that the bootable CD/DVD is set properly. ● Start the Setup Utility, and confirm the following settings. • [USB Port] and [Legacy USB Support] are set to [Enable] in the [Advanced] menu. • [CD/DVD Drive Power] is set to [On] in the [Main] menu. • [USB CDD] is the first device shown in [Boot priority order] in the [Boot] menu. ● Bootable CD/DVD created using B's Recorder in the CF-W2 and CF-Y2 series cannot be used on this computer. If you want to share bootable CD/DVD with those series, create a new bootable CD/DVD. ● When an external CD/DVD drive is connected, you cannot boot from the internal CD/DVD drive.
You have forgotten the password.	● Supervisor Password or User Password: Contact your technical support office. ● Administrator password: • If you have a password reset disk, you can reset the administrator password. Set the disk and enter any wrong password, then follow the on-screen instructions and set a new password. • If you do not have a password reset disk, reinstall (➔ page 23) and set up Windows, and then set a new password.
Cannot log on to Windows with the SD memory card.	● The Windows user name and password may not set correctly on the SD memory card. Enter the Windows user name and password without using the SD memory card. After logging on to Windows, set the same user name and the password on the SD memory card and Windows again. (➔ 📖 *Reference Manual* "SD Security") ● Set [SD Slot] to [Enable] in the [Advanced] menu of the Setup Utility.
"Remove disks or other media. Press any key to restart" or a similar message appears.	● A floppy disk is in the floppy disk drive and it does not contain system startup information. Remove the floppy disk and press any key. ● This message may appear with some devices connected to the USB port. Remove the device or set [Legacy USB Support] to [Disable] in the [Advanced] menu of the Setup Utility. ● If the problem persists after removing the disk, it may be a hard disk failure. Perform the reinstallation and return the hard disk to its condition at the time of purchase. (➔ page 23) If the problem persists even after the reinstallation, contact your technical support office.

Troubleshooting

Troubleshooting (Basic)/Error Code/Message

■ **Starting Up and Standby and Hibernation Mode**

[Executing Battery Recalibration] screen appears.	● The Battery Recalibration was canceled before Windows was shut down last time. To start up Windows, turn off the computer by the power switch, and then turn on.
The computer will not automatically enter standby/hibernation.	● If you connect to a network using wireless LAN function, perform access point settings. (➔ 🖳 *Reference Manual* "Wireless LAN") ● If you do not use wireless LAN function, turn off wireless LAN function. (➔ 🖳 *Reference Manual* "Wireless LAN") ● Make sure that you are not using any software that regularly accesses the hard disk.

When logging on (e.g., resuming the computer), audio is distorted.	● Perform the following steps to change the audio settings to prevent audio output.
	  ① Click [start] - [Control Panel] - [Sounds, Speech, and Audio Devices] - [Sounds and Audio Devices], and click [Sounds].
	  ② Set [Windows Logon] and [Windows Logoff] to [(None)].

Cannot resume.	● One of the following operations may have been carried out.
	  • In standby mode, the AC adaptor or battery pack was disconnected, or a peripheral was connected or disconnected.
	  • The power switch was slid for four seconds or longer to forcibly turn off the computer.
	  Slide the power switch to turn on the computer. Data not saved will be lost.
	● If the [CD/DVD Drive Power] is set to [Off] in the [Main] menu of the Setup Utility, it may take about few seconds to resume from hibernation mode while a disk is set in the CD/DVD drive. Wait for a moment.

Other startup problems.	● Check to see if there was a disk error.
	  ① Remove all peripheral devices including an external display.
	  ② Click [start] - [My Computer] and right-click [Local Disk(C:)], and click [Properties].
	  ③ Click [Tools] - [Check Now].
	  ④ Select the option in [Check disk options] and click [Start].
	● Start the computer in Safe Mode and check the error details. (➔ page 25 "Windows does not start up")

■ **Shutting Down**

Windows does not shut down.	● Remove all peripheral devices. ● Wait one or two minutes. It is not a malfunction.

■ **Password**

Even after entering the password, [Type your password] is displayed again	● If 🔢 lights up, press **NumLk** to disable the ten-key mode, and then input. ● If 🅰 lights up, press **Caps Lock** to disable the Caps Lock mode, and then input.

■ **Display**

No display.	● The external display is selected. Press **Fn** + **F3** to switch the display. Wait until the display has been switched completely before pressing **Fn** + **F3** again.
	● When using an external display,
	  • Check the cable connection.
	  • Turn on the display.
	  • Check the settings of external display.
	● The display is turned off by the power-saving function. To resume, do not press the direct selection keys, but press any other key like **Ctrl**.
	● The computer entered standby or hibernation by the power-saving function. To resume, slide the power switch.
	● The screen may become darker. Press **Fn** + **F2** to make the screen brighter.

The screen is disordered.	● Changing the number of display colors and resolution may affect the screen. Restart the computer. ● Connecting/disconnecting an external display may affect the screen. Restart the computer.
The external display does not work normally.	● If the external display does not support the power saving function, it may not work normally when the computer enters the power saving mode. Turn off the external display.
"Phoenix Always Launcher" was used to change the resolution setting, but that setting is not applicable.	● You cannot set the resolution setting to a value of resolution this computer does not support.

Troubleshooting

■ **Battery**

The battery indicator is lights red	● The battery level is very low (the charge is approx. 9% or less). ● 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.
The battery indicator is blinking	● If blinking red: Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact your technical support office. The battery pack or charging circuit may be defective. ● If blinking orange: • Battery cannot be recharged temporarily because the internal temperature of the battery pack is outside the acceptable temperature range for recharging. Your computer can be used normally in this state. Once the range requirement is satisfied, charging begins automatically. • Software applications and peripheral devices (USB devices, etc.) are consuming too much power. Exit the software applications currently running. Once the range requirement is satisfied, charging begins automatically.
The battery indicator is flashing	● The battery is recharging. If [Battery Charging Indicator] in [Main] menu of the Setup Utility is set to [Flashing], the indicator will alternately become lighter and darker.

■ **Touch Pad**

The cursor does not work.	● When using the external mouse, connect it correctly. ● Restart the computer using the keyboard. (Press 🪟 , **U**, and **R** to select [Restart].) ● If the computer does not respond to keyboard commands, read "No response" (➔ page 28).
Cannot input using the touch pad.	● Set [Touch Pad] to [Enable] in the [Main] menu of the Setup Utility. ● The drivers for some mice may disable the touch pad. Check your mouse's operating instructions.

■ **Recover Pro**

Cannot install Recover Pro	● Recover Pro cannot be installed when four primary partitions exist. Reduce the number of primary partitions to three or less before installation. You can check the number of the primary partitions in the order of [start] - [Control Panel] - [Performance and Maintenance] - [Administrative Tools] - [Computer Management] - [Disk Management]. ● Recover Pro cannot be installed when a backup area is remaining on the hard disk. Try one of the following methods: • If the backup area has complete backup data and you want to restore that data: Follow the "Complete Restore" instructions in "Hard Disk Backup Function (Recover Pro)" (➔ page 21) to restore the data. • To return the computer to its condition at the time of shipment: Reinstall the software (➔ page 23). • In step *8*, do not select "3. Reinstall Windows to the first partition." • If you do not need the data in the backup area, or if it is corrupted, or if does not include complete backup data: ① Access [http://www.phoenix.com/en/Customer+Services/Utilities/Recover+Pro+6.htm#Where], and download/install "Cleanup Utility for Recover Pro 6". ② Delete the backup area using "Cleanup Utility for Recover Pro 6". In this case, all data in the backup area will be lost.
An unnecessary backup area is present (is left) when Recover Pro is not installed.	● Perform the following steps to delete the unnecessary backup area. ① Access [http://www.phoenix.com/en/Customer+Services/Utilities/Recover+Pro+6.htm#Where], and download/install "Cleanup Utility for Recover Pro 6". ② Delete the backup area using "Cleanup Utility for Recover Pro 6".

Troubleshooting (Basic)/Error Code/Message

■ **Reference Manual**

The Reference Manual is not displayed.	● Install Adobe Reader.
	<For localized OS model>
	   ① Log on to Windows as an administrator.
	   ② Click [start] - [Run], input [c:\util\reader\AdbeRdr70_enu_full.exe], then click [OK].
	   ③ Follow the on-screen instructions.
	<For MUI OS model>
	(➔ page 12)

■ **Reinstalling B's Recorder/B's CLiP**

A serial number is requested when reinstalling.	● Input the following serial number B's Recorder: B's CLiP:

■ **Others**

No response.	● Press **Ctrl**+**Shift**+**Esc** to open Task Manager and close the software application that is not responding. ● An input screen (e.g., password input screen at startup) may be hidden behind another window. Press **Alt**+**Tab** to check. ● Slide the switch for four seconds or longer to shut down the computer, and then slide the power switch to turn it on. If the application program does not work normally, uninstall and reinstall the program. To uninstall, click [start] - [Control Panel] - [Add or Remove Programs].
Unable to input password	● Some keyboards have unusable keys (e.g. the "**M**" key on French keyboards). Use the other key when you press the key and the alarm sounds.

Error Code/Message

Follow the instructions below when an error code or message appears. If the problem persists or if the error code/message displayed is not shown here, contact your technical support office.

Error Code/Message	Solution
0211 Keyboard error	● Disconnect external keyboard.
0251 System CMOS checksum bad - Default configuration used	An error has occurred in the memory of Setup Utility settings. This occurs when the memory content is changed by an unexpected program operation, etc. ● Start the Setup Utility and return the settings to the default values, and then change the settings as necessary. ● If the problem persists, the internal clock battery may need to be replaced. Contact your technical support office.
0271 Check date and time settings	The date and time settings are not correct. ● Start the Setup Utility and set the correct date and time. ● If the problem persists, the internal clock battery may need to be replaced. Contact your technical support office.
0280 Previous boot incomplete - Default configuration used	Startup has failed repeatedly, so the Setup Utility settings have been returned to the default values to startup the computer. ● Start the Setup Utility and return the settings to the default values, and then change the settings as necessary.
Press <F2> to Setup	● Write down the error details and press **F2** to start the Setup Utility. Change the settings if necessary.
Operating System not found	The operating system is not installed in the floppy disk or the hard disk that you are going to boot from. ● If using a floppy disk, change the disk to the one you can use for boot. ● If using the hard disk, check if the hard disk is recognized in [Information] menu of the Setup Utility. If the hard disk is recognized, perform the reinstallation (➔ page 23). If not, contact your technical support office. ● If a device is connected to the USB port, disconnect the device, or set [Legacy USB Support] to [Disable] in the [Advanced] menu of the Setup Utility.

■ **To start the Setup Utility**
  ① Restart the computer.
  ② Press **F2** while [Panasonic] boot screen is displayed.

Troubleshooting

Hardware Diagnostics

If the hardware installed in this computer is not operating properly, you can use the PC-Diagnostic Utility to determine whether or not there is a problem.
If the utility discovers a problem in the hardware, contact your technical support office.

Hardware that can be checked using the PC-Diagnostic Utility

Hardware below can be checked using this utility. (Software cannot be checked.)
- CPU
- Memory
- Hard Disk
- CD/DVD Drive
- Video Controller
- Sound[*1]
- Modem
- LAN
- Wireless LAN[*2]
- USB
- PC Card Controller
- SD Card Controller
- Keyboard
- Touch Pad

[*1] When the PC-Diagnostic Utility is running, a loud beep will sound, so do not use headphones at this time. (The beep will not sound if mute is using Windows.)
[*2] Only for model with wireless LAN

Regarding the PC-Diagnostic Utility

NOTE
- Run this utility using the default settings in the Setup Utility. If the Setup Utility or other settings will not allow a hardware to be executed, the hardware icon will be displayed in gray.
- For the hard disk only, you can select standard diagnostic check or extended diagnostic check.
  When the PC-Diagnostic Utility starts up, it will run the standard diagnostic check. The extended diagnostic check is more detailed, and so requires a longer period of time to run.
- When the video diagnostic check is running, the display may be distorted, and when the audio diagnostic check is running, sounds may be generated from the speaker. These are not malfunctions.
- You can check the status of the diagnostic check by the display color on the left side of the hardware icon (A).
  - Aqua: Not running diagnostic check
  - Alternating blue and yellow: Currently running diagnostic check. The interval of the alternating colors differs depending on the type of diagnostic check currently running.
    During memory diagnostic check, the display may freeze for a long period of time. Wait until the process is complete.
  - Green: No problems discovered
  - Red: Problems discovered

- We recommend that you use the touch pad for operations. When not using the touch pad, you can operate using the internal keyboard instead.
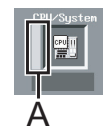
Operations	Touch pad operations	Internal keyboard operations
Select icon	Place the cursor above the icon	Press **Space** and then press → ← ↑ ↓ (⊠ (close) cannot be selected)
Click the icon	Tap or click (right click cannot be used)	Press **Space** above the icon
Complete the PC- Diagnostic Utility and then restart the computer	Click ⊠ (close)	Press **Ctrl** + **Alt** + **Del**.

- By clicking the icon, you can execute the following operations:
  - ▷ : Start the diagnostic check from the beginning
  - ▢ : Stop the diagnostic check (You cannot restart the check partway through by clicking ▷)
  - ℹ : Display help (click the screen or press **Space** to return to the original diagnostic check screen)
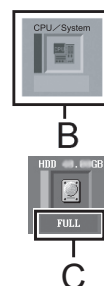
Hardware Diagnostics

Disconnect any peripheral devices before running the diagnostic check.

1   Connect the AC adaptor, and turn on the wireless switch.
During the diagnostic check, do not remove the AC adaptor, or attach any peripheral devices.

2   Turn on or restart the computer, and press F2 while [Panasonic] boot screen is displayed.
The Setup Utility starts up.
● If the password is requested, enter the Supervisor Password.
● If you are using the computer after changing the settings from the status at the time of purchase, we recommend that you make a note of the settings that are changed.

3   Press F9.
At the confirmation message, select [Yes] and press Enter.

4   Press F10.
At the confirmation message, select [Yes] and press Enter.
The computer will restart.

5   Press Ctrl + F7 while [Panasonic] boot screen is displayed.
When the PC-Diagnostic Utility starts up, it will automatically begin the diagnostic check for all hardware components.
● The touch pad and the internal keyboard cannot be used until alternating blue and yellow colors are displayed on the left side of the hardware icon (➔ page 29). If the touch pad does not operate properly, press Ctrl + Alt + Del to restart the computer, or slide the power switch to turn the power off, and then restart the PC-Diagnostic Utility.

NOTE
● Using the following procedure, you can run a diagnostic check on a specified hardware component, or run an extended diagnostic check on the hard disk (The extended diagnostic check is only for the hard disk).

① Click ▣ to stop the diagnostic check.
② Click the icon for the hardware that is <u>not to be checked</u>, so that the icon is displayed in gray (B). When running a check on the hard disk, clicking the icon once will turn on the extended diagnostic check ("FULL" (C) will be displayed below the icon); click again, and the icon will be displayed in gray.
③ Click ▶ to start the diagnostic check.

6   When all the hardware has been checked, confirm the diagnostic check results.
If the display is red and the message "Check Result TEST FAILED" is displayed, you can assume that there is a problem with the computer's hardware. Confirm which hardware component is displayed as red, and contact your technical support office.
If the display is green and the message "Check Result TEST PASSED" is displayed, the computer's hardware is operating normally. Continue using the computer as it is. If the computer still does not operate properly, reinstall the software. (➔ page 23)

NOTE
● If you run a memory diagnostic check after installing a new RAM module (sold separately) and the message "Check Result TEST FAILED" is displayed:
Remove the additional RAM module and run the diagnostic check again. If the message "Check Result TEST FAILED" is still displayed, you can assume that there is a problem with the internal RAM module.

7   After the diagnostic check is complete, click ⊠ (close), or press Ctrl + Alt + Del to restart the computer.

Troubleshooting

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Appendix

Specifications

This page provides the specifications for the basic model CF-W5MWSYZBE/CF-W5MWSYZL2. The model number is different according to the unit configuration.

To check CPU speed, memory size and the hard disk drive (HDD) size:

Start the Setup Utility (→ 📖 Reference Manual "Setup Utility") and select [Information] menu.
[CPU Speed]: CPU speed, [System Memory]: Memory size, [Primary Master]: Hard disk drive size

■ **Main Specifications**

Model No.		CF-W5MWSYZBE/CF-W5MWSYZL2
CPU/ Secondary cache memory		Intel® Core™ Duo Processor Ultra Low Voltage U2400 (1.06 GHz, 2 MB[*1] L2 cache, 533 MHz FSB)
Chip Set		Mobile Intel® 945 GMS Express chip set
Main Memory		512 MB[*1], DDR2 SDRAM (1536 MB[*1] Max.)
Video Memory		UMA (128 MB[*1] Max.)[*2]
Hard Disk Drive		60 GB[*3]
CD/DVD Drive		USB 2.0 connection interface
		DVD MULTI Drive built-in, Buffer underrun error prevention function: Supported
Continuous Data Transfer Speed[*4][*5]	Reading[*6]	●DVD-RAM[*7]: 2X (4.7 GB[*3])/1X (2.6 GB[*3]) ●DVD-R[*8]: 4X (Max.) ●DVD-RW: 4X (Max.) ●DVD-ROM: 8X (Max.) ●CD-ROM: 24X (Max.) ●CD-R: 24X (Max.) ●CD-RW: 20X (Max.) ●+R: 4X (Max.) ●+R DL: 4X (Max.) ●+RW: 4X (Max.)
	Writing[*9]	●DVD-RAM[*7]: 2X (4.7 GB[*3]) ●DVD-R: 1X/2X/4X ●DVD-RW: 1X/2X ●+R: 2.4X/4X ●+RW: 2.4X ●CD-R: 4X/8X/8-16X/8-24X ●CD-RW: 4X ●High-Speed CD-RW: 4X/8X/10X ●Ultra-Speed CD-RW: 8X/10X
Supported Disks/Format[*5]	Reading	●DVD-ROM (Single Layer, Dual Layer) ●DVD-Video ●DVD-R[*8](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[*7] (1.4 GB, 2.8 GB, 2.6 GB, 5.2 GB, 4.7 GB, 9.4 GB)[*3] ●+R (4.7 GB)[*3] ●+R DL (8.5 GB)[*3] ●+RW (4.7 GB)[*3] ●CD-Audio ●CD-ROM (XA compatible) ●CD-R ●Photo CD (multiple session compatible) ●Video CD ●CD-EXTRA ●CD-RW ●CD-TEXT
	Writing	●DVD-RAM[*7] (1.4GB, 2.8GB, 4.7GB, 9.4GB)[*3]●DVD-R (1.4GB, 4.7GB for General)[*3] ●DVD-RW (Ver.1.1/1.2 4.7GB, 9.4GB)[*3] ●+R (4.7GB[*3]) ●+RW (4.7GB[*3]) ●CD-R ●CD-RW
Display Method		12.1 XGA type (TFT) (1024 × 768 dots)
Internal LCD		65,536/16,777,216 colors (1024 × 768 dots)[*10]
External Display[*11]		65,536/16,777,216 colors (800 × 600 dots/1024 × 768 dots/1280 × 768 dots/1280 × 1024 dots/1400 × 1050 dots/1600 × 1200 dots/2048 × 1536 dots (60 Hz)[*12])
Simultaneous Display on LCD + External Display[*11]		65,536/16,777,216 colors (800 × 600 dots, 1024 × 768 dots)[*10]
Wireless LAN		Intel® PRO/Wireless 3945 ABG Network Connection (→ page 33)
LAN[*13]		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, Intel® High Definition Audio subsystem support, Monaural Speaker (built in)
Security Chip		TPM (TCG V1.2 compliant)[*14]
Card Slots	PC Card Slot	× 1, Type I or Type II, Allowable current 3.3 V: 400 mA, 5 V: 400 mA
	SD Memory Card Slot[*15]	× 1, Data transfer rate = 8 MB per second
RAM Module Slot		× 1, DDR2 SDRAM, 172-pin, 1.8 V, Micro DIMM, PC2-4200 Compliant[*16]
Interface		USB Ports × 2 (USB2.0 × 2)[*17] / Modem Port (RJ-11) / LAN Port (RJ-45)[*13] / External Display Port: Mini Dsub 15-pin female / Microphone Jack: Miniature jack, 3.5 DIA / Headphone Jack: Miniature jack, 3.5 DIA / Mini Port Replicator connector: Dedicated 50-pin male
Keyboard/Pointing Device		84 keys/Touch Pad
Power Supply		AC adaptor or Battery pack
AC Adaptor[*18]		Input: 100 V - 240 V AC, 50 Hz/60 Hz Output: 16 V DC, 2.5 A

Model No.	CF-W5MWSYZBE/CF-W5MWSYZL2
Battery Pack	Li-ion 10.65 V, 5.7 Ah
Operating Time[*19]	Approx. 5.5 hours - 11 hours[*20] (Approx. 7.5 hours[*21]) (Disable Economy Mode (ECO))
Charging Time[*22]	Approx. 5 hours (Power off)/Approx. 6.5 hours (Power on)
Power Consumption[*23]	Approx. 35 W[*24] / Approx. 40 W (maximum when recharging in the ON state)
Physical Dimensions (W × H × D)	268 mm × 24.9 mm (at the front)/46.2 mm (at the rear) × 210.4 mm (excluding protrusion)
Weight[*25]	Approx. 1240 g

Environment	Operation	Temperature	5°C to 35°C
		Humidity	30% to 80% RH (No condensation)
	Storage	Temperature	-20°C to 60°C
		Humidity	30% to 90% RH (No condensation)

OS[*26]	Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies (NTFS File system)
Pre-installed Software[*26]	Microsoft® Internet Explorer 6 Service Pack 2 / DirectX 9.0c / Microsoft® Windows® Media Player 10 / Microsoft® Windows® Movie Maker 2.1 / Microsoft® .NET Framework 1.1 SP1/2.0/ Adobe Reader / Intel® PROSet/Wireless Software <Only for model with wireless LAN>/ 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[*27] / Hotkey Settings / Optical Disc Drive Letter-Setting Utility /Optical Disc Drive Power-Saving Utility / Wireless Switch Utility <Only for model with wireless LAN>/ Economy Mode (ECO) Setting Utility / Battery Recalibration Utility/Infineon TPM Professional Package V2.5[*28] / Recover Pro 6[*28]
	Setup Utility / Hard Disk Data Erase Utility[*29] / PC-Diagnostic Utility[*30]

■ **Wireless LAN <Only for model with wireless LAN>**

Data Transfer Rates[*31]	IEEE802.11a: 54/48/36/24/18/12/9/6 Mbps (automatically switched) IEEE802.11b: 11/5.5/2/1 Mbps (automatically switched) IEEE802.11g: 54/48/36/24/18/12/9/6 Mbps (automatically switched)
Standards Supported	IEEE802.11a/IEEE802.11b/IEEE802.11g
Transmission method	OFDM system, DSSS system
Wireless Channels Used	IEEE802.11a: Channels 36 to 64, 100 to 140 IEEE802.11b/IEEE802.11g: Channels 1 to 13
RF Frequency Band	IEEE802.11a: 5.18-5.32 GHz, 5.50-5.70 GHz IEEE802.11b/IEEE802.11g: 2.412-2.742 GHz

[*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. Your 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, DVD-RW, +R, +R DL, and +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.
Does not support writing to DVD-R DL/+R DL (dual layer disks) or reading from DVD-R DL.

[*6] 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.

[*7] Only non-cartridge type or removable cartridge type can be used.
When writing to DVD-RAM, use only disks up to 3x. This application cannot be used with 5x DVD-RAM media (2-5x disks, etc.).

[*8] 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.

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

[*10] A 16,777,216 color display is achieved by using the dithering function.

[*11] Display may be impossible using some connected external displays.

[*12] When using an external display with a resolution of 2048 x 1536 dots, use a display that supports a 60Hz refresh rate. If an external display that does not support a 60Hz refresh rate is used, images may not be displayed properly.

[*13] Some devices cannot be used depending on the port type.

[*14] For information on TPM, click [start] - [Run] and input "c:\util\drivers\tpm\README.pdf", and refer to the 📖 *Installation Manual* of "Trusted Platform Module (TPM)".

Specifications

*15 Operation has been tested and confirmed using Panasonic SD Memory Cards with a capacity of up to 2 GB.
The transfer rate using the SD Memory Card slot on this computer is 8 MB per second. (This is a theoretical value, and differs from actual speeds.)
The transfer rate is 8 MB per second even if you use an SD Memory Card that supports high-speed transfer rates.
Operation on other SD equipment is not guaranteed.
This computer is not compatible with MultiMediaCards or SDHC Memory Cards.
Do not insert these kinds of cards.

*16 Only a RAM module designed for DDR2 (PC2-4200) can be added (Panasonic : CF-BAW0512U, CF-BAW1024U).
JEDEC standard 214 pin Micro DIMM cannot be used.
PC2100 / PC2700 172 pin Micro DIMM cannot be used.
If a PC2-3200 RAM module is installed, the main memory processing speed may become slower.

*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.
The computer is supplied with a 125 V AC compatible AC cord.

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*19 Varies depending on the usage conditions, or when an optional devices is attached.
When Economy Mode (ECO) is enabled, the operating time becomes approximately 20% shorter than when it is disabled.

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

*21 Measured using MobileMark™ 2005 (LCD brightness : 60 cd/m^2).

*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.

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*25 Average value. May differ depending on models.

*26 Operations of this computer are not guaranteed except for the pre-installed OS.

*27 Preinstalled B's CLiP does not support CD-R, DVD-R, +R and DVD-RAM.

*28 Must be installed before use.

*29 The Product Recovery DVD-ROM is required.

*30 For startup methods, refer to "Hardware Diagnostics" (➔ page 29).

*31 These are speeds specified in IEEE802.11a+b+g standards. Actual speeds may differ.

Appendix

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MEMO

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.

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