Panasonic®

OPERATING INSTRUCTIONS

Personal Computer

Model No. **CF-T5** series

For further information about the computer, you can refer to the on-screen manual.
To access the on-screen manual
➔ page 20 “On-screen Manual”

For your technical support office, refer to “LIMITED WARRANTY.”

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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) - [All Programs] :	Click (Start), and then click [All Programs].
➔ :	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.
  - "Windows Vista™ Business" as "Windows" or "Windows Vista"
- The display modes are referred as follows. ( ) indicates the terms in [Intel® Graphics Media Accelerator Driver for mobile] screen. To display the screen, right-click the desktop and click [Graphics Properties].
  - Internal LCD (Notebook): The computer's display
  - External display (Monitor): External display
  - Simultaneous display (Intel (R) 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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Models for U.S.A.

<Only for model with a " FC " mark on the bottom of the computer>

Federal Communications Commission Radio Frequency Interference Statement

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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

Warning

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

6-M-1

FCC RF Exposure Warning:

<Only for model with wireless LAN/Bluetooth/wireless WAN>

- This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.
- This equipment must be installed and operated in accordance with provided instructions and minimum 1.5 cm spacing must be provided between antenna and all person's body (excluding extremities of hands, wrist and feet) during wireless modes of operation.
- This transmitter must not be co-located or operated in conjunction with any other antenna or transmitter.

This computer is provided with a PC Card slot that could be used with wireless transmitter(s), which will be specifically recommended, when they become available.

Other third-party wireless transmitter(s) have not been RF exposure evaluated for use with this computer and may not comply with FCC RF exposure requirements.

<Only for model with wireless LAN>

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

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

High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and /or damage this product.

25-M-2-1

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1)This device may not cause harmful interference, and

(2)This device must accept any interference received, including interference that may cause undesired operation.

Responsible Party: Panasonic Corporation of North America
One Panasonic Way
Secaucus, NJ 07094
Tel No:1-800-LAPTOP5 (1-800-527-8675)

6-M-1

FCC Regulation Notice for modem

This equipment contains a FCC approved modem.

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

1. This equipment complies with CFR47 Part 68 rules. On the computer is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If required, this information must be provided to the telephone company.
2. An FCC compliant telephone cord and modular plug is provided with this equipment. This equipment is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. See Installation Instructions for details.
3. The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all area, the sum of RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to a line, as determined by the total RENs, contact the local telephone company.
4. If your telephone equipment cause harm to the telephone network, the telephone company will notify you in advice that temporary discontinuance of service may be required. But if advice notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.
5. The telephone company may take changes in its facilities, equipment, operations or procedures that could affect the operation of the equipment. If this happens the telephone company will provide advance notice in order for you to make necessary modifications to maintain uninterrupted service.
6. If trouble is experienced with this equipment, for repair or warranty information, please contact Panasonic Corporation of North America at DIAL TOLL FREE 1-800-LAPTOP5 (1-800-527-8675). If the equipment is causing harm to the telephone network, the telephone company may request that you disconnect the equipment until the problem is resolved.
7. There are no user serviceable parts contained in this equipment.

8. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subject to state tariffs.
9. The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entry, or other individual sending the message and the telephone number of the sending machine or such business, other entity, or individual. In order to program this information into your fax software, you should refer to the manual of the Fax software being used.
10. According to the FCC's electrical safety advisory, we recommend that you may install an AC surge arrestor in the AC outlet to which this equipment is connected. Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment connected to AC power sources and that this is a major nationwide problem.

"Caution : To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord."
"ATTENTION : Pour réduire le risque d'incendie, utiliser uniquement des conducteurs de télécommunications 26 AWG ou de section supérieure."

16-M-1

Notice for the products using LCD

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

24-M-1

<For USA-California Only>
This product contains a CR Coin Cell Lithium Battery which contains Perchlorate Material- special handling may apply.
See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/

38-M-1

Safety Precautions

<Only for model with wireless WAN>
The following safety precautions must be observed during all phases of the operation, usage, service or repair of any Personal Computer or Handheld Computer incorporating Wireless WAN. Manufacturers of the cellular terminal are advised to convey the following safety information to users and operating personnel and to incorporate these guidelines into all manuals supplied with the product. Failure to comply with these precautions violates safety standards of design, manufacture and intended use of the product. Panasonic assumes no liability for customer failure to comply with these precautions.

When in a hospital or other health care facility, observe the restrictions on the use of mobiles. Switch Personal Computer or Handheld Computer incorporating Wireless WAN off, if instructed to do so by the guidelines posted in sensitive areas. Medical equipment may be sensitive to RF energy. The operation of cardiac pacemakers, other implanted medical equipment and hearing aids can be affected by interference from Personal Computer or Handheld Computer incorporating Wireless WAN placed close to the device. If in doubt about potential danger, contact the physician or the manufacturer of the device to verify that the equipment is properly shielded. Pacemaker patients are advised to keep their Personal Computer or Handheld Computer incorporating Wireless WAN away from the pacemaker, while it is on.

Switch off Personal Computer or Handheld Computer incorporating Wireless WAN before boarding an aircraft. Make sure it cannot be switched on inadvertently. The operation of wireless appliances in an aircraft is forbidden to prevent interference with communications systems. Failure to observe these instructions may lead to the suspension or denial of cellular services to the offender, legal action, or both.

Do not operate Personal Computer or Handheld Computer incorporating Wireless WAN in the presence of flammable gases or fumes. Switch off the cellular terminal when you are near petrol stations, fuel depots, chemical plants or where blasting operations are in progress. Operation of any electrical equipment in potentially explosive atmospheres can constitute a safety hazard.

Your Personal Computer or Handheld Computer incorporating Wireless WAN receives and transmits radio frequency energy while switched on. Remember that interference can occur if it is used close to TV sets, radios, computers or inadequately shielded equipment. Follow any special regulations and always switch off Personal Computer or Handheld Computer incorporating Wireless WAN wherever forbidden, or when you suspect that it may cause interference or danger.

Road safety comes first! Do not use a Personal Computer or Handheld Computer incorporating Wireless WAN while driving a vehicle. Do not place the computer with Wireless WAN in an area where it could cause personal injury to the driver or passengers. It is recommended to stow the unit in the boot or secure stowage area while driving. Do not place the computer with Wireless WAN in an area over an air bag or in the vicinity where an air bag may deploy. Air bags inflate with great force and if the computer with Wireless WAN is placed in the air bag deployment area may be propelled with great force and cause serious injury to occupants of the vehicle.

SOS

IMPORTANT!
Personal Computer or Handheld Computer incorporating Wireless WAN operate using radio signals and cellular networks cannot be guaranteed to connect in all conditions. Therefore, you should never rely solely upon any wireless device for essential communications, for example emergency calls.

Remember, in order to make or receive calls, Personal Computer or Handheld Computer incorporating Wireless WAN must be switched on and in a service area with adequate cellular signal strength.

Some networks do not allow for emergency calls if certain network services or phone features are in use (e.g. lock functions, fixed dialing etc.). You may need to deactivate those features before you can make an emergency call.

Some networks require that a valid SIM card be properly inserted in Personal Computer or Handheld Computer incorporating Wireless WAN.

Models for Canada

Industry Canada (IC) Notice for modem
This equipment contains an Industry Canada approved modem unit.
The Industry Canada label is affixed on the modem unit.

EQUIPMENT ATTACHEMENT LIMITATIONS

"NOTICE: The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.
Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.
Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.
Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas. Caution: Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate."
"NOTICE: The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5."

REN: See bottom of the computer

RESTRICTIONS CONCERNANT LE RACCORDEMENT DE MATÉRIEL

"AVIS: L'étiquette d'Industrie Canada identifie le matériel homologué. Cette étiquette certifie que le matériel est conforme aux normes de protection, d'exploitation et de sécurité des réseaux de télécommunications, comme le prescrivent les documents concernant les exigences techniques relatives au matériel terminal. Le Ministère n'assure toutefois pas que le matériel fonctionnera à la satisfaction de l'utilisateur.
Avant d'installer ce matériel, l'utilisateur doit s'assurer qu'il est permis de le raccorder aux installations de l'entreprise locale de télécommunication. Le matériel doit également être installé en suivant une méthode acceptée de raccordement.
L'abonné ne doit pas oublier qu'il est possible que la conformité aux conditions énoncées ci-dessus n'empêche pas la dégradation du service dans certaines situations.
Les réparations de matériel homologué doivent être coordonnées par un représentant désigné par le fournisseur.
L'entreprise de télécommunications peut demander à l'utilisateur de débrancher un appareil à la suite de réparations ou de modifications effectuées par l'utilisateur ou à cause de mauvais fonctionnement.
Pour sa propre protection, l'utilisateur doit s'assurer que tous les fils de mise à la terre de la source d'énergie électrique, des lignes téléphoniques et des canalisations d'eau métalliques, s'il y en a, sont raccordés ensemble. Cette précaution est particulièrement importante dans les régions rurales. Avertissement: L'utilisateur ne doit pas tenter de faire ces raccordements lui-même; il doit avoir recours à un service d'inspection des installations électriques, ou à un électricien, selon le cas."
"AVIS: L'indice d'équivalence de la sonnerie (IES) assigné à chaque dispositif terminal indique le nombre maximal de terminaux qui peuvent être raccordés à une interface. La terminaison d'une interface téléphonique peut consister en une combinaison de quelques dispositifs, à la seule condition que la somme d'indices d'équivalence de la sonnerie de touts les dispositifs n'excède pas 5."

IES: Voir sous le fond de l'ordinateur

17-Ca-1

Canadian ICES-003
This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

7-M-2

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

30-Ca-1-1

<Only for model with wireless LAN>
This product (local network devices) for the band 5150-5250 MHz is only indoor usage to reduce potential for harmful interference to co-channel Mobile Satellite systems.
High power radars are allocated as primary users (meaning they have priority) of 5250-5350 MHz and 5650-5850 MHz and these radars could cause interference and/or damage to LELAN devices.

30-Ca-2-1

Models for Europe

<Only 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:
Panasonic Services Europe
A Division of Panasonic Marketing Europe GmbH
Panasonic Testing Centre

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, Romania, Bulgaria and Liechtenstein.

18-E-1

Important Safety Instructions / Importantes Mesures De Sécurité

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

1. Do not use this product near water, for example, near a bath tub, 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

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

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

CONSERVER CES INSTRUCTIONS

19-F-1

Information to the User

<Only for model with wireless LAN/Bluetooth>

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 / Pile au lithium

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

Pile au lithium!

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

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

15-F-1

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)

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-M-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.

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

- This 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 AC 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 AC Plug If Your Hands Are Wet
Electric shock may result.

Clean Dust and Other Debris of the AC Plug 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 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.

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 This Product 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 AC Plug Is Connected
The AC cord may be damaged, resulting in fire or electric shock.
- If the AC cord is damaged, unplug the AC 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 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.

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 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-VZSU37) with your product. Use of battery packs other than those manufactured and supplied by Panasonic may present a safety hazard (generation of heat, ignition or rupture).

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

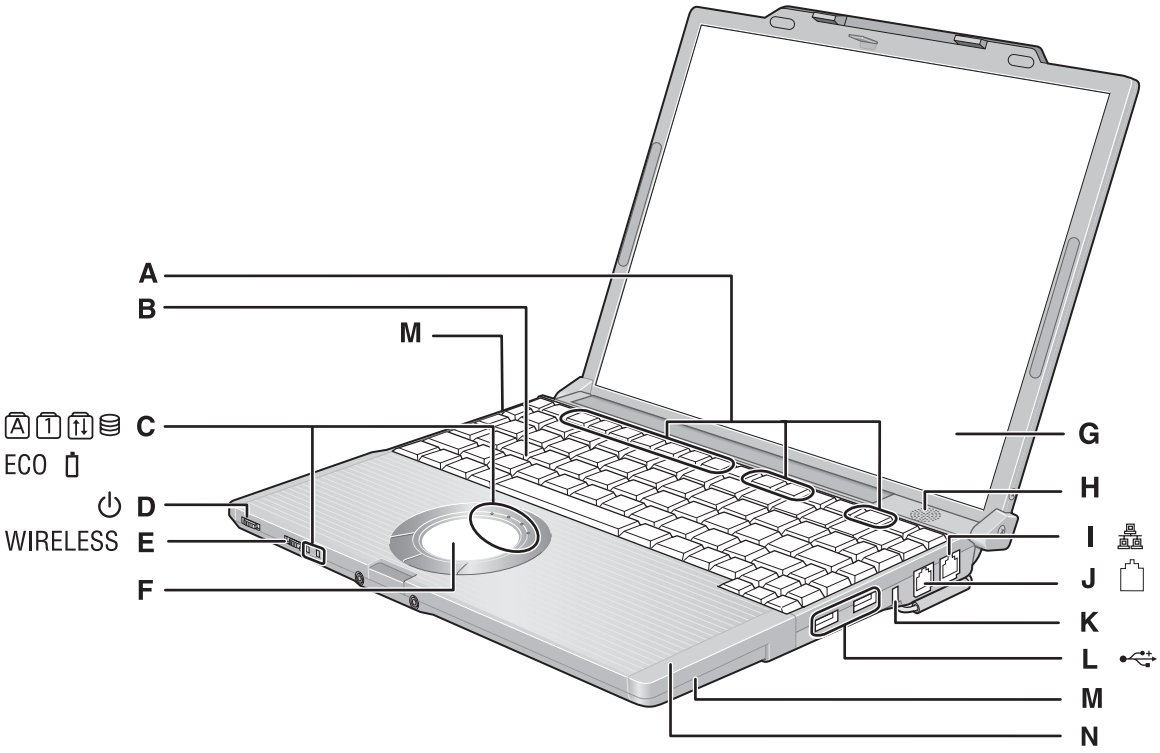
L'appareil que vous vous êtes procuré est alimenté par une batterie au lithium-ion.
Pour des renseignements sur le recyclage de la batterie, veuillez composer le 1-800-8-BATTERY.

- 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 {32 °F to 131 °F}). (➔ *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 {50 °F} or below.)
- If the temperature is low, the operating time is shortened. Only use the computer within the allowable temperature range.
- The battery pack is a consumable item. If the amount of time the computer can be run by using a particular battery pack becomes dramatically shorter and repeated recharging does not restore its performance, the battery pack should be replaced with a new one.
- When transporting a spare battery inside a package, briefcase, etc., it is recommended that it be placed in a plastic bag so that its contacts are protected.
- Always power off the computer when it is not in use. Leaving the computer on when the AC adaptor is not connected will exhaust the remaining battery capacity.

Description of Parts



A : Function Key

➔ *Reference Manual* “Key Combinations”

B : Keyboard

C : LED Indicator

Ⓐ : Caps lock

⓵ : Numeric key (NumLk)

⇅ : 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 14

Power Indicator

- Off: Power off/Hibernation
- Green: Power on
- Blinking green: Sleep

E : Wireless Switch

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

➔ *Reference Manual* “Disabling/Enabling Wireless Communication” “Wireless LAN”

<Only for model with Bluetooth>

➔ *Supplementary Instructions* of “Bluetooth”

F : Touch Pad

➔ *Reference Manual* “Using the Touch Pad”

G : LCD/Touchscreen

➔ *Reference Manual* “Using the Touchscreen”

H : Speaker

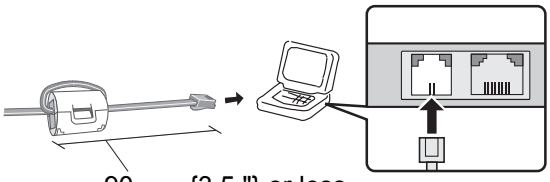
I : LAN Port

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 {3.5 "} 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>

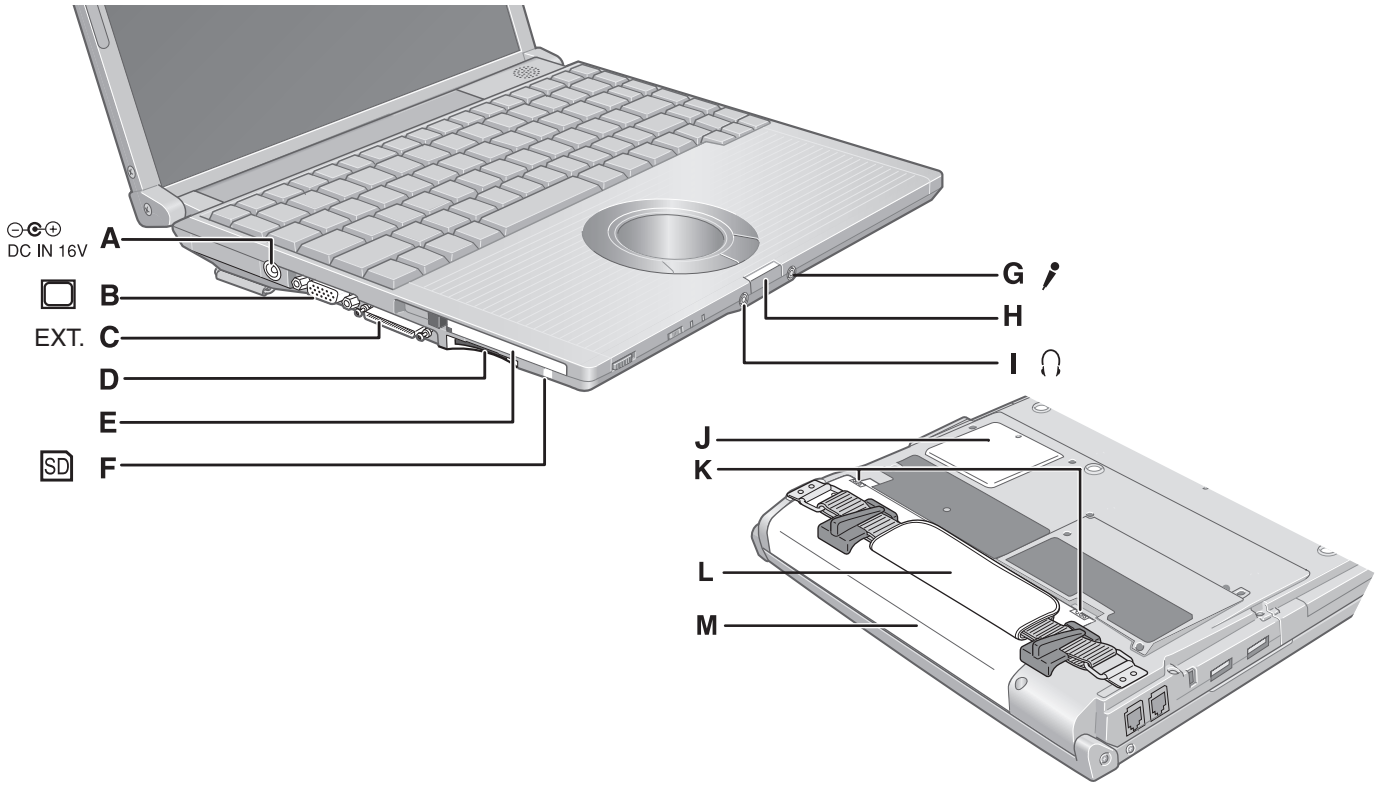
➔ *Reference Manual* “Wireless LAN”

N : Bluetooth Antenna

<Only for model with Bluetooth>

➔ *Supplementary Instructions* of “Bluetooth”

Description of Parts



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”

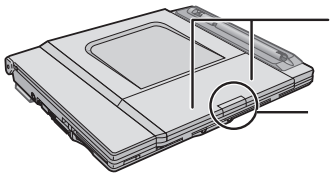
E : PC Card Slot

➔ *Reference Manual* “PC Cards”

F : SD Memory Card Indicator
Blinking: During access

➔ *Reference Manual* “SD Memory Card”

CAUTION



Wireless WAN Antenna

For model with EVDO or without wireless WAN:
The SIM card slot under this cover is not used for this model. Do not open the cover.
For other models:
Refer to the additional instructions.

G : Microphone Jack
Use a condenser microphone. If you use other types of microphones, audio input may not be possible, or malfunctions may occur.
To output microphone audio from the internal speakers:

① Right-click on the notification area and click [Playback Devices].

② Click [Speakers] - [Properties] - [Levels].

③ In [Input Monitor], click so it changes to and click [OK].

④ Click (Start) - [Control Panel] - [Hardware and Sound] - [SigmaTel Audio].

⑤ Remove the check mark from [Enable Power Management].

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

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

J : RAM Module Slot
➔ page 23

K : Battery Latches
➔ page 13

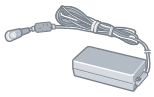
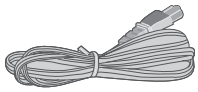
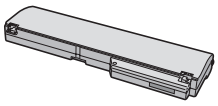
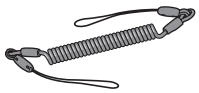
L : Hand Strap
➔ page 18

M : Battery Pack

First-time Operation

■ Preparation

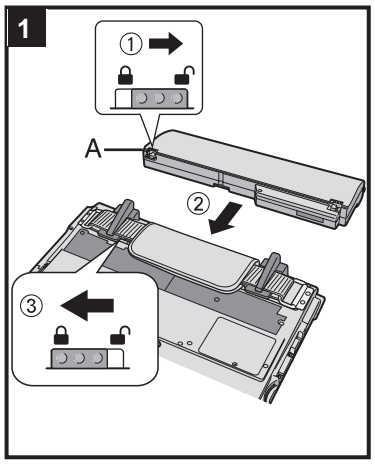
① Check and identify the supplied accessories.
If you do not find the described accessories, contact your technical support office.

AC Adaptor 1	AC Cord 1	Battery Pack 1	Modem Telephone Cable 1
 Model No: CF-AA1623A		 Model No: CF-VZSU37	
Soft Cloth 1	**Stylus 1**		**Tether 1**
	➔ *Reference Manual* "Using the Touchscreen"		

Operating Instructions (This book) 1
Product Recovery DVD-ROM 1
Windows® Book 1
Windows® Anytime Upgrade 1

Windows® Anytime Upgrade is necessary for upgrading Windows Vista™ Business to Windows Vista™ Ultimate. To upgrade the operating system to Windows Vista™ Ultimate using the Windows® Anytime Upgrade disc, you need to purchase the license key on the web site of Microsoft Windows® Anytime Upgrade. For further information, refer to the instruction manual of Windows® Anytime Upgrade. This disc cannot be used to reinstall Windows.

② Read the LIMITED USE LICENSE AGREEMENT before breaking the seal on the computer's packaging (➔ page 34).

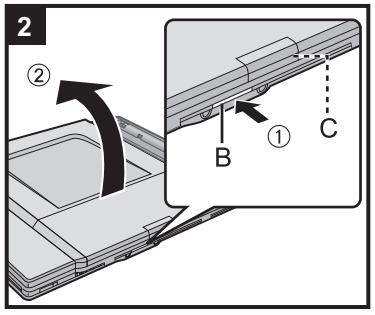


1 Insert the battery pack.

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.

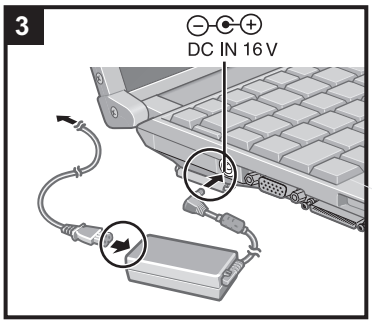


2 Open the display.

① Press and hold the latch (B) located at the front.
• Be careful not to press the SIM card slot cover (C) by mistake.
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.

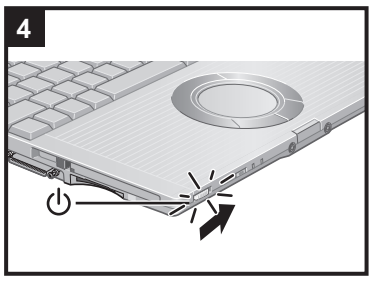


3 Connect your computer to a power outlet.

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.



4 Turn on the computer.

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

- When the power is turned on, the power indicator lights. But, in the following cases, the power indicator may turn off once immediately after the power is turned on.
  - After removing the battery pack and the AC adaptor and setting them again
  - After sliding the power switch for 4 seconds or longer and turning off the power

It takes approximately 5 minutes until the Windows setup screen appears. Do not touch the keys and touch pad until it appears.

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
  - Touching the keyboard, touch pad or touchscreen
  - 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.

- After turning on the computer, “Please wait a moment while Windows prepares to start for the first time .....” appears, and then a small circle circulates on the screen. This will take a few minutes.
- During setup of Windows, use the touch pad and clicking to move the cursor and to click an item.
- Setup of Windows will take approximately 20 minutes.
  Go to the next step, confirming each message on the display.

CAUTION

- You cannot choose the following words for user name and password: CON, PRN, AUX, CLOCK$, NUL, COM1 to COM9, LPT1 to LPT9.
- You can change the user name, password, image and security setting after setup of Windows.
- Remember your password. If you forget the password, you cannot use the Windows. Creating a password reset disk beforehand is recommended.

6 Perform the touchscreen calibration.

① Click (Start) - [Control Panel] - [Additional Options] - [Tablet Calibration].
② If [User Account Control] is displayed, click [Continue], or input password and click [OK].
③ Touch each "+" using the stylus.
"+" is displayed in order at 9 locations.

NOTE

- **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**

CAUTION

- Do not do the following
  - Connecting or disconnecting the AC adaptor
  - Sliding the power switch
  - Touching the keyboard, touch pad, touchscreen or external mouse
  - Closing the display

NOTE

- When the DC plug is not connected to the computer, disconnect the AC cord from your AC wall outlet. About 1.5 W of power is consumed simply by having the AC adaptor plugged into an electrical outlet.
- 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. 3 months
  - In sleep: Approx. 8 days
  - In hibernation: Approx. 15 days

  If "Wake up from LAN" is disabled, the period of time in sleep will become slightly longer, and the period of time in hibernation will become about the same as that in power-off.

■ **To change the partition structure**

You can shrink a part of an existing partition to create unallocated disk space, from which you can create a new partition. This computer has a single partition in the default setting.

① Click (Start) and right-click [Computer], then click [Manage].
- A standard user needs to enter an administrator password.

② Click [Disk Management].
③ Right-click the partition for Windows ("c" drive in the default setting), and click [Shrink Volume].
- The partition size depends on the computer specifications.

④ Input the size in [Enter the amount of space to shrink in MB] and click [Shrink].
- You cannot input a larger number than the displayed size.

⑤ Right-click [Unallocated] (the shrunk space in the step ④) and click [New Simple Volume].
⑥ Follow the on-screen instructions to make the settings, and click [Finish].
Wait until formatting is completed.

NOTE

- You can create an additional partition using remaining unallocated space or newly creating unallocated space.
- To delete a partition, right-click the partition and click [Delete Volume] in the step ③.

Regarding Windows Vista

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 Vista default setting (not Classic view or Classic Start menu etc.).

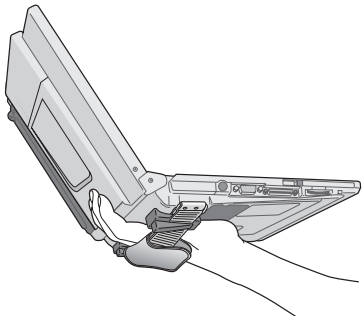
- **User Account Control**
  User Account Control is a new security component of Windows Vista to stop unauthorized changes to your computer. The User Account Control message will pop up every time you try making an important change to your computer.
- **Windows Sidebar**
  The Windows Sidebar does not appear in the default setting. To display it, click (Start) - [All Programs] - [Accessories] - [Windows Sidebar].
  To always display the sidebar:
  ① Right-click the sidebar icon on the notification area, and click [Properties].
  ② Add a check mark for [Start Sidebar when Windows starts] and click [OK].
- **When Using Wireless LAN** <Only for model with wireless LAN>
  If you cannot communicate with the access point or if the access point is not detected, right-click on the notification area and click [Connect to a network], and then click in the [Connect to a network] screen.
- **Sound and Video**
  - Sound (e.g. MP3, WMA) and video (e.g. MPG, WMV) recorded in PC Cards and SD Memory Cards may be interrupted during playback. If this happens, copy them to the hard disk drive and play back.
  - Sound and video in AVI files may be interrupted or produce a time-lag during playback. If this happens, click or on the notification area, and click [High performance]. This may remedy the problem.
  - Depending on the processing status on Windows, sound may be interrupted at Windows startup. You can mute the sound at startup.
    ① Right-click the desktop and click [Personalize] - [Sounds].
    ② Remove the check mark from [Play Windows Startup sound], and click [OK].
  - If you create WMA files from an audio CD using Windows Media Player and add them to a Windows Media Player's playlist and play them back, the sound may be cut approximately 20 seconds before the end of the track. If this occurs, make the following settings.
    ① Click (Start) - [Control Panel] - [Hardware and Sound] - [Sound].
    ② Click [Speakers] - [Properties].
    ③ In [Speakers Properties] screen, click [Effects].
    ④ Add a check mark for [Disable System Effects] and click [OK].
  - The thermal control may set the computer to hibernation if you use the computer in a high ambient temperature and use an application that uses a lot of CPU power (for example, playing DVD-Video over an extended period). Wait a few minutes (at least 5) before turning the computer on again if this occurs.
    You can change settings to make it less likely that the thermal control will switch the computer to hibernation, even though this will slow down application processing speed, and may result in less smooth video. Go to the Setup Utility [Main] menu and change the setting for [Thermal Control] to [Extended].
- **About Windows® Anytime Upgrade supplied**
  - Windows® Anytime Upgrade is necessary for upgrading Windows Vista™ Business to Windows Vista™ Ultimate. To upgrade the operating system to Windows Vista™ Ultimate using the Windows® Anytime Upgrade disc, you need to purchase the license key on the web site of Microsoft Windows® Anytime Upgrade. For further information, refer to the instruction manual of Windows® Anytime Upgrade. This disc cannot be used to reinstall Windows.
  - When you have upgraded the preinstalled "Windows Vista™ Business" to "Windows Vista™ Ultimate" using Windows® Anytime Upgrade, you may have the problem that audio does not sound. To remedy it, reinstall the sound driver in the following procedure.
    ① Click (Start) - [Control Panel] - [Uninstall a program].
    ② Click [SigmaTel Audio] and click [Uninstall].
    - A standard user needs to enter an administrator password.
    - Follow the on-screen instructions to remove the sound driver.

    ③ Click (Start) and input [c:\util\drivers\sound] in [Start Search], and press **Enter**.
    ④ Right-click [setup] in [sound] folder and click [Run as administrator].
    If there are two or more "setup" files, right-click the file whose [Type] is [Application].
    - A standard user needs to enter an administrator password.
    - Follow the on-screen instructions and install the sound driver.

- **If high-frequency sound occurs around keyboard while using the computer**
  This symptom is mitigated by changing the settings for the USB power saving function.
  A standard user needs to enter an administrator password and click [OK].
  - Set [USB selective suspend setting] to [Enable].
    ① Click (Start) - [Control Panel] - [System and Maintenance] - [Power Options].
    ② Click [Change plan settings] of the current power plan.
    ③ In [Change settings for the plan:], click [Change advanced power settings].
    ④ In [Advanced settings], double-click [USB settings].
    ⑤ Double-click the displayed [USB selective suspend setting].
    ⑥ Change settings of [On battery:] and [Plugged in:] to [Enabled].
    ⑦ Click [OK] and exit the [Advanced settings] screen.
  - Set the USB power saving function to [Disable].
    ① Click (Start) - [All Programs] - [Panasonic] - [USB Power Save Mode Switching Utility].
    ② Click [Disable], and click [OK].
    ③ Click [OK].
    ④ Restart the computer.
- **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 "Check your computer security" 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.

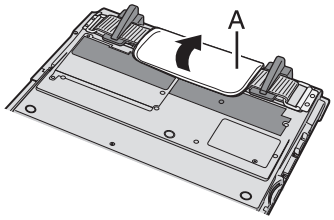
Using the Hand Strap

The hand strap is convenient for computing while standing.
To carry the computer, put your hand between the computer and the hand strap to prevent it from falling, and firmly hold the computer when using it.

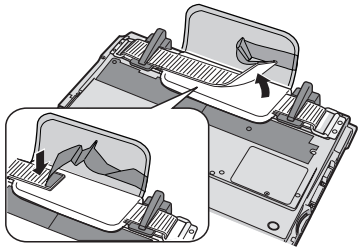


- You can adjust the length of the hand strap by the following steps.

1 Peel back the tape (A) on the hand strap.



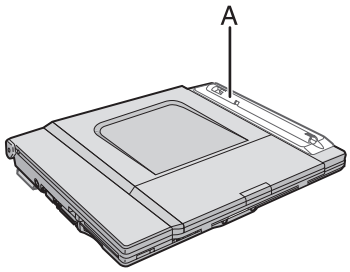
2 Adjust the length of the band.



3 Close the tape on the hand strap firmly.

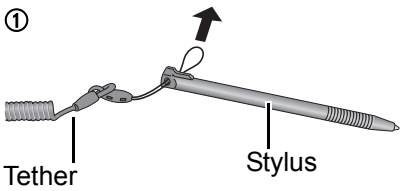
Before Using the Stylus

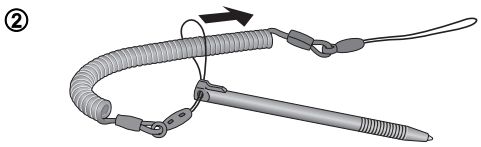
At the time of purchase, the stylus (included) is not attached to the stylus holder (A).
The tether prevents the stylus from falling accidentally. It can be attached to the stylus holder.



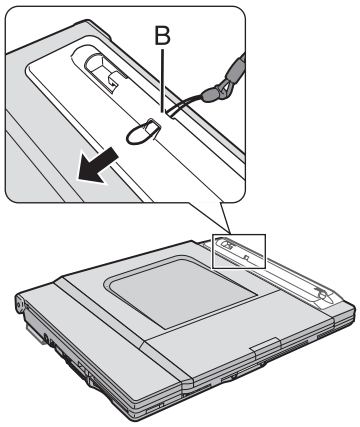
Perform the following steps before using the stylus.

1 Attach the tether to the stylus.

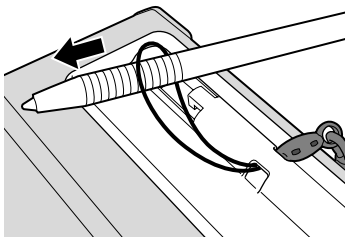




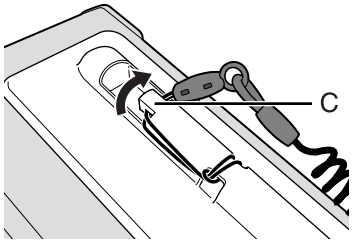
2 Thread the stylus strap of the tether from (B) in the direction of the arrow.



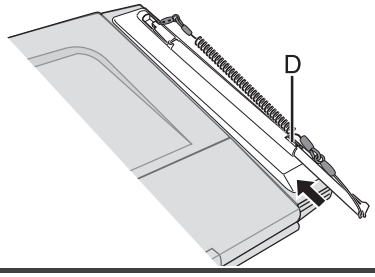
3 Pass the stylus through the strap.



4 Fasten the strap to the hook (C).



5 To store the stylus, push the end into (D).



CAUTION

- Do not carry the computer by gripping the stylus holder.

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:

Double-click on the desktop.

Contents

- Read Me First
- Using the Touch Pad
- Using the Touchscreen
- Display Rotation
- Key Combinations
- Battery Power
- Customizing the Power Setting
- Computing on the Road
- Sleep or Hibernation Functions
- Security Measures
- PC Cards
- SD Memory Card
- Mini Port Replicator
- External Display
- USB Devices
- Modem
- LAN
- Disabling/Enabling Wireless Communication
- Wireless LAN
- Setup Utility
- Loupe Utility
- DMI Viewer
- Troubleshooting (Advanced)
- Check the Computer’s Usage Status
- Protecting Your Computer from Viruses
- Update Windows to its Latest Version
- Technical Information

■ 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 on the desktop.

- Alternatively click (Start) - [All Programs] - [Panasonic] - [On-Line Manuals] - [Important Tips].

<Only for model with Bluetooth>

■ Supplementary Instructions of “Bluetooth”

To access the Supplementary Instructions of “Bluetooth”:

Click (Start) - [All Programs] - [Panasonic] - [On-Line Manuals] - [Bluetooth Manual].

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.

Handling and Maintenance

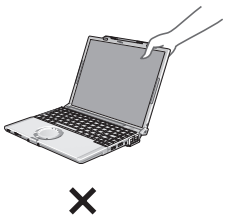
Operation Environment

- 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 {41 °F to 95 °F}
  Storage: -20°C to 60 °C {-4 °F to 140 °F}
  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.
  - 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.

■ Things to keep in mind when using the touchscreen

- Do not apply too much pressure when operating the touchscreen.
  Only a light touch is required to operate the touchscreen. Applying too much pressure may damage the surface.
- Do not touch the screen outside of the LCD display area.
  The touchscreen input area is defined by the LCD display screen. Touching the screen outside of the display area may result malfunctions or damage to the touchscreen.

■ 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/Bluetooth/wireless WAN

<Only for model with wireless LAN/Bluetooth/wireless WAN>

- Before using wireless LAN/Bluetooth/wireless WAN, 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.

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

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 display (LCD)

Use the soft cloth included with the computer (For more information, refer to “Suggestions About Cleaning the LCD Surface” that comes with the soft cloth.)

Cleaning the display while the power is on may cause the computer to malfunction. Also, dirt on the touchscreen is easier to see when the computer is powered off, and so is easier to clean.

To clean the 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.

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.

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

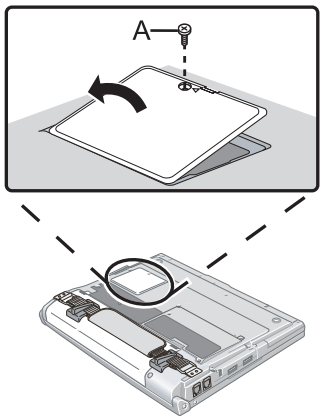
- Use recommended RAM module products. Do not use non-recommended RAM modules. Non-recommended RAM modules may not operate properly, and may cause damage to your computer. Some non-recommended RAM modules may overheat, causing the cover to warp. Refer to various sources for recommended RAM module.
- 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 sleep or hibernation.

② Disconnect the AC adaptor and remove the battery pack.

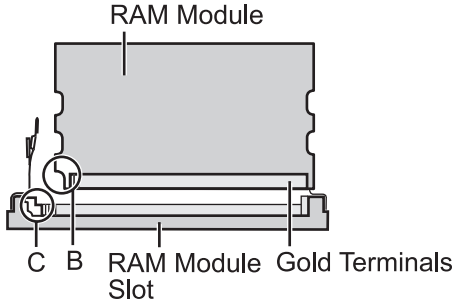
③ Remove the screw (A) and the cover on the bottom of the computer.
- Use the appropriate screw driver so as not to strip the thread of screw.



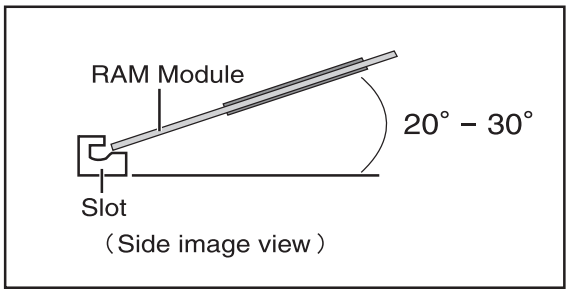
Inserting the RAM Module

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.

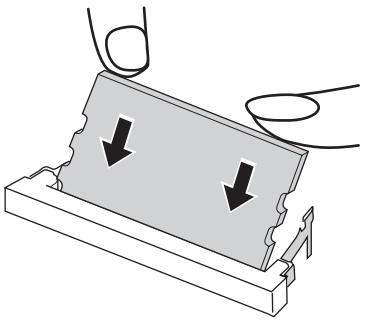


(Front image view)



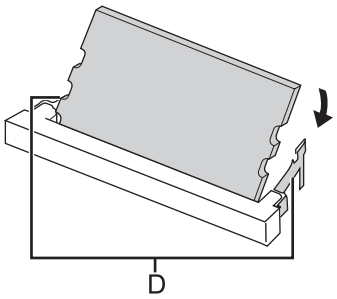
2 Insert the RAM module parallel to the slot firmly until the gold terminals are invisible.

- 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.

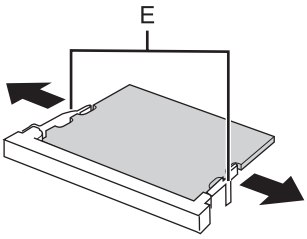
NOTE

- 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.

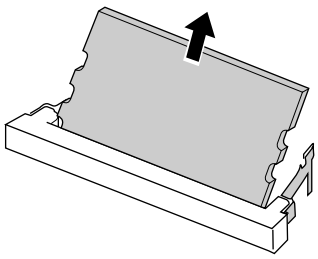
Removing the RAM Module

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.

Hard Disk Backup/Restore Function

[Backup and Restore Center] and [System Recovery Options] allow you create a backup of the entire hard disk data, which can be used to recover from hardware failure.

> 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.

Creating a backup of the hard disk data

To create a backup of the entire hard disk to another storage media (e.g., external hard disk): Use [Back up computer].
To create a backup of a file or a folder: Use [Back up files].
For further information, click (Start) - [Control Panel] - [Back up your computer].

NOTE

- Connect the AC adaptor and do not remove it until backup is complete.

Restoring the hard disk data

NOTE

- This function does not work when you turn on the computer for the first time or just after you reinstall Windows. Start and shut down Windows Vista, and then you can use the function.
- Connect the AC adaptor and do not remove it until restoration is complete.

1 Turn on the computer, and when [Panasonic] boot screen disappears, press and hold F8.

- If [Enter Password] is displayed during the following procedure, input the Supervisor Password or the User Password.

2 Release your finger when [Advanced Boot Options] is displayed.

3 Press ↑ ↓ to select [Repair Your Computer] and press Enter.
[System Recovery Options] appears.

4 Select the keyboard layout and click [Next].

5 Select [User name] and input [Password], then click [OK].

6 Click [Windows Complete PC Restore] and follow the on-screen instructions.

NOTE

- If pressing F8 does not display [System Recovery Options], use the Product Recovery DVD-ROM.
  ① Perform the steps ***1*** to ***6*** of “Reinstalling Software” (➔ page 27).
  ② Click [Run “System Recovery Options”.] and click [Next].
  ③ Follow the on-screen instructions.

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.

NOTE

- This utility cannot erase data for specific partitions. The entire hard disk data including the data of the recovery partition will be erased.

Preparation

- Prepare the Product Recovery DVD-ROM (included).
- Prepare the Panasonic CD/DVD drive (optional): CF-VDRRT1M, CF-VDRRT2W, CF-VDRRT3W.
- Remove all peripherals (except for the CD/DVD drive).
- Connect the AC adaptor and do not remove it until hard disk data erase is complete.

1 Turn off the computer and connect the CD/DVD drive to the computer.

2 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.

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

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

5 Set the Product Recovery DVD-ROM into the CD/DVD drive.

6 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.

7 Click [Erase the whole data on the Hard Disk for security] and click [Next].

8 At the confirmation message, click [YES].

9 Click [Continue].

10 Click [Continue] again.

11 Click [YES].
Erasing the hard disk data starts.

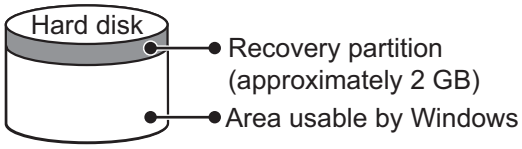
12 After erasing is completed, remove the Product Recovery DVD-ROM and click [OK].

Reinstalling Software

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

CAUTION

Do not delete the recovery partition on the hard disk.
This partition contains data to help recover your system.
The disk space in the partition is not available to store data.



Preparation

- Prepare the Product Recovery DVD-ROM (included).
- Prepare the Panasonic CD/DVD drive (optional): CF-VDRRT1M, CF-VDRRT2W, CF-VDRRT3W.
- Remove all peripherals (except for the CD/DVD drive).
- Connect the AC adaptor and do not remove it until reinstallation is complete.

1 Turn off the computer and connect the CD/DVD drive to the computer.

2 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.

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

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

5 Set the Product Recovery DVD-ROM into the CD/DVD drive.

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

7 Click [Reinstall Windows] and click [Next].
The License Agreement screen appears.

8 Click [Yes, I agree to the provisions above and wish to continue!] and click [Next].

9 Select the settings and click [Next].
- [Reinstall Windows to the whole Hard Disk to factory default.] : You will have a single partition.
- [Reinstall Windows to the operating system partition.] : You can keep the partition structure.

10 At the confirmation message, click [YES].
Reinstallation starts automatically. (It will take approximately 30 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.

11 Remove the Product Recovery DVD-ROM, and then click [OK] to turn off the computer, then remove the CD/DVD drive.

12 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.

13 Press 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.

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

15 Perform the first-time operation (➔ page 14).

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

17 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 Sleep 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 23) ● 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.	● When Windows does not start when resuming from hibernation, set the Product Recovery DVD-ROM and display [System Recovery Options] (➔ page 25), and run [Startup Repair]. If the problem persists, perform reinstallation with the Product Recovery DVD-ROM. ● 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 23) ● 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 your finger when [Advanced Boot Options] is displayed, and with ↑ or ↓, select [Safe Mode], then press **Enter**. Follow the on-screen instructions. *1 Supervisor Password or User Password set with the Setup Utility ● Press **F9** in the Setup Utility (➔ page 31 "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 optional 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. • [USB CDD] is the first device shown in [Boot priority order] in the [Boot] menu.
You have forgotten the password.	● Supervisor Password or User Password: Contact your technical support office. ● Administrator password: • If you have another account with Administrator authority, log-on with it, then delete the password for the problem account. • If you have a password reset disk, click [Reset password] displayed after the password input error, then follow the on-screen instructions to set a new password. If you cannot do either of the above, you will need to reinstall (➔ page 27) and setup Windows.
"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 27) If the problem persists even after the reinstallation, contact your technical support office.
[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.

■ Starting Up and Sleep and Hibernation Mode

The computer will not automatically enter sleep/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 Right-click the desktop and click [Personalize] - [Sounds]. ② Remove the check mark from [Play Windows Startup sound], and click [OK].
Cannot resume.	● One of the following operations may have been carried out. • In sleep 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.
Other startup problems.	● Check to see if there was a disk error. ① Remove all peripheral devices including an external display. ② Click (Start) - [Computer] and right-click [Local Disk (C:)], and click [Properties]. ③ Click [Tools] - [Check Now]. • A standard user needs to enter an administrator password. ④ Select the option in [Check disk options] and click [Start]. ● Start the computer in Safe Mode and check the error details. (➔ page 28 "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, a message appears requesting to type it again.	● If 1 lights up, press **NumLk** to disable the ten-key mode, and then input. ● If A 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 sleep 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.
The sidebar gadgets are not correctly displayed.	● Log off and log on Windows, and display the sidebar again.

■ 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.

Troubleshooting (Basic)/Error Code/Message

■ Battery

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 / Touchscreen

The cursor does not work.	● When using the external mouse, connect it correctly. ● Restart the computer by using the keyboard. Press ⊞ and press → three times, and press ↑ to select [Restart] and press **Enter**. ● If the computer does not respond to keyboard commands, read "No response" (➔ below).
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.
Cannot input using the touchscreen.	● When mouse drivers are installed (i.e. IntelliMouse), the touchscreen does not work. Reinstall the touchscreen driver.
Cannot point the correct position using the included stylus.	● Perform the touchscreen calibration (➔ page 15).

■ Reference Manual

The Reference Manual is not displayed.	● Install Adobe Reader. ① Log on to Windows as an administrator. ② Click (Start) and input "c:\util\reader\AdbeRdr70_enu_full.exe" in [Start Search] then press **Enter**. ③ Update Adobe Reader to its latest version. If your computer is connected to the internet, start up Adobe Reader and click [Help] - [Check for updates now].

■ Others

[System Restore] does not appear by pressing **F8**.	● The restoration program does not run after Windows Anytime Upgrade is executed. For further information, access the following web site: https://eww.pavc.panasonic.co.jp/pc/itn/support/vistainfo.html
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] - [Uninstall a program].
The PC information viewer startup is slow.	● It may take a minute or longer to start up depending on the network environment.

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 27). 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.

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
- Video Controller
- Sound*1
- Modem
- LAN
- Wireless LAN*2
- Bluetooth*3
- Wireless WAN*4
- USB
- PC Card Controller
- SD Card Controller
- Keyboard
- Touch Pad
- Touchscreen

*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
*3 Only for model with Bluetooth
*4 Only for model with wireless WAN

- 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.

Regarding the PC-Diagnostic Utility

NOTE

- 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.

- 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**.

- 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.

Running the Diagnostic Check

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.

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**.

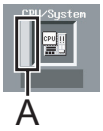
4 Press F10.

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.

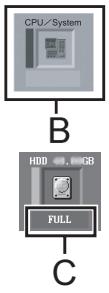
- If the password is requested, enter the password.
- The touch pad and the internal keyboard cannot be used until alternating blue and yellow colors are displayed on the left side of the hardware icon (A).
- By clicking the icon, you can execute the following operations:
  - ▶: Start the diagnostic 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)



- 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

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). The extended diagnostic check is more detailed, and so requires a longer period of time to run.



① Click ■ to stop the diagnostic check.
② Click the icon for the hardware that is not to be checked, 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 27)

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.

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Specifications

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-T5MWETZJM
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 (64 MB*1 Max./224 MB*1 Max. with expanded memory)*2
Hard Disk Drive			60 GB*3 Approx. 2 GB*3 are used as a recovery partition. (Users cannot use this partition.)
Display Method			12.1 XGA type (TFT) (1024 × 768 dots)
	Internal LCD		65,536/16,777,216 colors (1024 × 768 dots)*4
	External Display*5		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)*6)
	Simultaneous Display on LCD + External Display*5		65,536/16,777,216 colors (800 × 600 dots, 1024 × 768 dots)*4
Wireless LAN			Intel® PRO/Wireless 3945 ABG Network Connection (➔ page 37)
Bluetooth™			(➔ page 37)
LAN*7			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)*8
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*9		× 1, Data transfer rate = 8 MB per second
RAM Module Slot			× 1, DDR2 SDRAM, 172-pin, 1.8 V, Micro DIMM, PC2-4200 Compliant*10
Interface			USB Ports × 2 (USB2.0 × 2)*11 / Modem Port (RJ-11) / LAN Port (RJ-45) *7 / External Display Port: Mini Dsub 15-pin female / Microphone Jack*12: Miniature jack, 3.5 DIA / Headphone Jack: Miniature jack, 3.5 DIA / Mini Port Replicator connector: Dedicated 50-pin male
Keyboard/Pointing Device			83 keys/Touch Pad/Touchscreen (stylus (included) touch capable)
Power Supply			AC adaptor or Battery pack
AC Adaptor*13			Input: 100 V - 240 V AC, 50 Hz/60 Hz Output: 16 V DC, 2.5 A
Battery Pack			Li-ion 11.1 V, 7.65 Ah
	Operating Time*14		A. Approx. 9.5 hours (USB Power Save Mode - Enable, Economy Mode (ECO) - Disable) B. Approx. 8.5 hours (USB Power Save Mode - Disable, Economy Mode (ECO) - Disable) Note: Approx. 8.5 hours (above B) is the measured value at the factory setting.
	Charging Time*15		Approx. 5 hours (Power off)/Approx. 7 hours (Power on)
Power Consumption*16			Approx. 35 W*17 / Approx. 40 W (maximum when recharging in the ON state)
Physical Dimensions (W × H × D) (excluding the stylus holder)			• Including protrusion of the hand strap 268 mm × 33.3 mm (at the front)/71.1 mm (at the rear) × 218 mm {10.6 " × 1.3 " /2.8 " × 8.6 "} • Excluding protrusion of the hand strap 268 mm × 33.3 mm (at the front)/50.2 mm (at the rear) × 218 mm {10.6 " × 1.3 " /2.0 " × 8.6 "}
Weight*18			Approx. 1600 g {3.5 lb.}
Environment	Operation	Temperature	5°C to 35°C {41°F to 95°F}
		Humidity	30% to 80% RH (No condensation)
	Storage	Temperature	-20°C to 60°C {-4°F to 140°F}
		Humidity	30% to 90% RH (No condensation)

Appendix

Model No.	CF-T5MWETZJM
OS[*19]	Windows Vista™ Business
Pre-installed Software[*19]	Microsoft® Internet Explorer 7.0 / DirectX 10 /Microsoft® Windows® Media Player 11 / Microsoft® Windows® Movie Maker 6.0 / Microsoft® .NET Framework 3.0 / Adobe Reader / Loupe Utility / Touch Pad Utility / DMI Viewer / PC Information Viewer / Display Rotation Tool / Hotkey Settings / Wireless Switch Utility <Only for model with wireless LAN/Bluetooth/wireless WAN> / Economy Mode (ECO) Setting Utility / Battery Recalibration Utility / Infineon TPM Professional Package V3.0[*20]/ USB Power Save Mode Switching Utility
	Setup Utility / Hard Disk Data Erase Utility[*21] / PC-Diagnostic Utility[*22]

■ Wireless LAN <Only for model with wireless LAN>

Data Transfer Rates	IEEE802.11a: 54/48/36/24/18/12/9/6 Mbps (automatically switched)[*23] IEEE802.11b: 11/5.5/2/1 Mbps (automatically switched)[*23] IEEE802.11g: 54/48/36/24/18/12/9/6 Mbps (automatically switched)[*23]
Standard Supported	IEEE802.11a/IEEE802.11b/IEEE802.11g
Transmission Method	OFDM system, DS-SS system
Wireless Channels Used	IEEE802.11a: Channels 36/40/44/48/52/56/60/64/149/153/157/161/165 IEEE802.11b/ IEEE802.11g: Channels 1 to 11
RF Frequency Band	IEEE802.11a: 5.18 - 5.32 GHz, 5.745 - 5.825 GHz IEEE802.11b/ IEEE802.11g: 2412 - 2462 MHz

■ Bluetooth™ <Only for model with Bluetooth>

Bluetooth Version	2.0 + EDR
Transmission Method	FHSS system
Wireless Channels Used	Channels 1 to 79
RF Frequency Band	2.402-2.48 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] A 16,777,216 color display is achieved by using the dithering function.

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

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

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

[*8] For information on TPM, click (Start) and input "c:\util\drivers\tpm\README.pdf" in [Start Search], and press **Enter**, and refer to the *Installation Manual* of "Trusted Platform Module (TPM)".

[*9] 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. Do not insert this kind of cards.

[*10] 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.

[*11] Does not guarantee operation of all USB-compatible peripherals.

[*12] Use a condenser-stereo microphone.

[*13] <Only for North America>
The AC adaptor is compatible with power sources up to 240 V AC adaptor. This computer is supplied with a 125 V AC compatible AC cord.

20-M-2-1

[*14] Measured at LCD brightness : 60 cd/m^2.
Varies depending on the usage conditions, or when an optional device is attached.
When Economy Mode (ECO) is enabled, the operating time becomes approximately 20 % shorter than when it is disabled.
To switch USB Power Save Mode:

① Click (Start) - [All Programs] - [Panasonic] - [USB Power Save Mode Switching Utility].
② Click [Disable] or [Enable], and click [OK].
③ Click [OK].
④ Restart the computer.

[*15] Varies depending on the usage conditions, CPU speed, etc. It may take a long time to charge a fully discharged battery.

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

[*17] Rated power consumption.

23-E-1

[*18] Average value. May differ depending on models.

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

[*20] Must be installed before use.

[*21] The Product Recovery DVD-ROM is required.

[*22] For startup methods, refer to "Hardware Diagnostics" (➔ page 32).

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

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For U.S.A.

PANASONIC PERSONAL COMPUTER AND PERIPHERALS LIMITED WARRANTY

Panasonic Computer Solutions Company (referred to as "Panasonic") will repair this product (other than software, which is covered by a separate warranty) with new or rebuilt parts, free of charge in the U.S.A. for three (3) years from the date of original purchase in the event of a defect in materials or workmanship. This warranty includes the AC adaptor but excludes the batteries and all other options and accessories which are covered for a period of one (1) year from the date of purchase.

This warranty is extended solely to the original purchaser. A purchase receipt or other proof of date of original purchase will be required before warranty performance is rendered.

This warranty only covers failures due to defects in materials or workmanship which occur during normal use. It does not cover damage which occurs in shipment or failures which are caused by products not supplied by Panasonic, or failures which result from alteration, accident, misuse, introduction of liquid or other foreign matter into the unit, abuse, neglect, installation, maladjustment of consumer controls, improper maintenance, modification or service by anyone other than a Factory Service Center or authorized Panasonic Service Dealer, or damage that is attributable to acts of God.

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.

Limits and Exclusions:

There are no other express warranties except as listed below.
PANASONIC SHALL NOT BE LIABLE FOR LOSS OF DATA OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES RESULTING FROM THE USE OF THIS PRODUCT, OR ARISING OUT OF ANY BREACH OF THIS WARRANTY. ALL EXPRESS AND IMPLIED WARRANTIES, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE LIMITED TO THE APPLICABLE WARRANTY PERIOD SET FORTH ABOVE. Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.
This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state. If a problem with your product develops during or after the warranty period, you may contact our representatives at 1-800-LAPTOP5. If the problem is not handled to your satisfaction, then write to the Consumer Affairs Division at the address indicated below.

SOFTWARE LIMITED WARRANTY

Panasonic Computer Solutions Company (referred to as "Panasonic") warrants to you only that the disk(s) or other media on which the Programs are furnished will be free from defects in materials and workmanship under normal use for a period of sixty (60) days from the date of delivery thereof to you, as evidenced by your purchase receipt.

This is the only warranty Panasonic makes to you. Panasonic does not warrant that the functions contained in the Programs will meet your requirements or that the operation of the Programs will be uninterrupted or error free.

Panasonic's entire liability, and your exclusive remedy under this warranty shall be limited to the replacement, in the United States, of any defective disk or other media which is returned to Panasonic's Authorized Service Center, together with a copy of the purchase receipt, within the aforesaid warranty period.

Anything in the foregoing to the contrary notwithstanding, Panasonic shall have no obligation for any defects in the disk(s) or other media on which the Programs are furnished resulting from your storage thereof, or for defects that have been caused by operation of the disk(s) or other media otherwise than on the Product or in environmental conditions other than those specified by Panasonic by alteration, accident, misuse, abuse, neglect, mishandling, misapplication, installation, maladjustment of consumer controls, improper maintenance, modification of damage that is attributable to acts of God. In addition, Panasonic shall have no obligation for any defects in the disk(s) or other media if you have modified, or attempted to modify any Program.

DURATION OF IMPLIED WARRANTIES, IF ANY, IS LIMITED TO SIXTY (60) DAYS.

PANASONIC ASSUMES NO RISK OF AND SHALL NOT IN ANY CASE BE LIABLE FOR ANY DAMAGES, INCLUDING, WITHOUT LIMITATION, ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES ARISING FROM BREACH OF WARRANTY OR CONTRACT, NEGLIGENCE OR ANY OTHER LEGAL THEORY, INCLUDING, WITHOUT LIMITATION LOSS OF GOODWILL, PROFITS OR REVENUE, LOSS OF USE OF THE PROGRAMS OR PRODUCTS OR ANY ASSOCIATED EQUIPMENT, COST OF CAPITAL, COST OF ANY SUBSTITUTE EQUIPMENT, FACILITIES, SERVICES, DOWNTIME COSTS, OR CLAIMS OF ANY PARTY DEALING WITH YOU FOR SUCH DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages, or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you.

This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

This Limited Warranty will be governed by the laws the State of New York, without regard to its conflict-of-laws rules.

* * *

To obtain service or technical assistance within the continental U.S.A. and Alaska.

DIAL TOLL FREE: 1-800-LAPTOP5

Correspondence requesting product information should be sent to:
Panasonic Computer Solutions Company
3 Panasonic Way, Panazip 2F-5, Secaucus, NJ 07094

For Canada

PANASONIC COMPUTER AND PERIPHERALS LIMITED WARRANTY

Coverage – Panasonic Canada Inc. (“PCI”) warrants to you, the first end user customer, this computer product (excluding software media), when purchased from PCI or from a PCI authorized reseller, to be free from defects in materials and workmanship under normal use, subject to the terms set forth below, during the period of warranty coverage specified.

Scope of Coverage	Period of Coverage	Type of Failure Coverage
Whole Product (except Batteries), AC adaptor and CD-ROM (if factory installed)	Three (3) Years from Date of Original End User Customer Purchase	Defective Materials or Workmanship
Batteries, CD-ROM (unless factory installed), Port Replicator, Extra Memory Modules and all other Peripherals, Options and Accessories	One (1) Year from Date of Original End User Customer Purchase	Defective Materials or Workmanship

Remedy – In the event of a warranty claim, contact PCI’s representatives within the applicable warranty period, identifying the nature of the defect claimed, at 1-800-668-8386 between 9:00 A.M. and 5:00 P.M., Eastern Time Zone, Mon. – Fri. (excluding holidays) for instructions on how to obtain service. A purchase receipt or other proof of date of original purchase is required before warranty service is performed. Defective parts covered by this Limited Warranty will be repaired or replaced with new or comparable rebuilt parts on an exchange basis. Warranty replacement or repair is subject to the terms of this Limited Warranty for the balance of the original period of warranty coverage.

No Coverage – This Limited Warranty does not cover products purchased outside Canada. Neither does it cover damage to, failure of, or defects in a product or accessory through mishandling, improper installation, abnormal use, misuse, neglect, accident, introduction of liquid or other foreign matter into the product, alteration or servicing by anyone not authorized by PCI, or act of God.

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.

IF YOU SHIP THE PRODUCT FOR WARRANTY SERVICE

Carefully pack the product, preferably in the original carton. Include details of defect claimed and proof of date of original purchase. No liability is assumed for loss or damage to the product while in transit, if you chose your own transportation carrier.

SOFTWARE MEDIA LIMITED WARRANTY

Coverage – Panasonic Canada Inc. (“PCI”) warrants to you, the first end user customer, that the disk(s) or other media on which software program(s) is/are supplied will be free from defects in materials and workmanship under normal use in Canada for a period of sixty (60) days from date of receipt as evidenced by your purchase receipt for your Panasonic Computer product.

THIS IS THE ONLY WARRANTY THAT PCI MAKES RESPECTING THE SOFTWARE MEDIA. PCI does not warrant the software. Please refer to the software licensor’s written warranty (accompanying the copy of the software) for any software warranty claim.

Claim Procedure – In the event of a defect in material or workmanship in the media during the sixty (60) day warranty period, and you return it, transportation costs prepaid, to Panasonic Canada Inc., Computer Products Marketing, at the above address, within the warranty period, together with a copy of your purchase receipt, and an explanation of the suspected defect, PCI will replace in Canada the defective disk(s) or other media.

Remedy – PCI’s entire liability, and your only remedy for any breach of this software media warranty is limited to replacement of the media only. It does not cover any other damages, including, but not limited to, loss of use or profit loss, or special, indirect or consequential damages, or other claims, whether or not of similar character.

No Coverage – This limited warranty does not apply if the disk(s) or other media has been used in other than a Panasonic product, or in environmental conditions other than those specified by PCI or the manufacturer, or if subjected to misuse, neglect, mishandling, modification or attempted modification of the program, or if damaged by accident or act of God. PCI is not responsible for damage to or loss of any program, data or removable storage media.

GENERAL

NO OTHER WARRANTIES – PCI DISCLAIMS ALL OTHER WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO THE SOFTWARE, SOFTWARE MEDIA, COMPUTER PRODUCT, OPTIONS AND ACCESSORIES.

NO LIABILITY FOR CONSEQUENTIAL DAMAGES – IN NO EVENT SHALL PCI BE LIABLE FOR ANY SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES ARISING FROM ANY BREACH OF THE LIMITED WARRANTIES SET OUT IN THIS DOCUMENT, OR FROM THE USE OF THE COMPUTER PRODUCT, INCLUDING, WITHOUT LIMITATION, LOSS OF DATA, BUSINESS, PROFIT OR GOODWILL.

IN ANY EVENT, PCI’S MAXIMUM LIABILITY FOR ANY BREACH SHALL NOT EXCEED THE AMOUNT ACTUALLY PAID BY YOU FOR THE COMPUTER PRODUCT.

NO ACTION, REGARDLESS OF ITS BASIS, MAY BE BEGUN AGAINST PCI MORE THAN TWO (2) YEARS AFTER THE CAUSE OF ACTION AROSE.

Statutory Warranties – Some jurisdictions do not allow these limitations or exclusions, so they may not apply to you.

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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