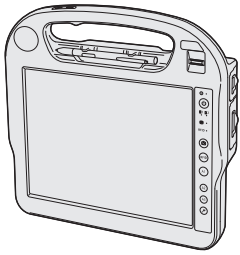


OPERATING INSTRUCTIONS

Personal Computer

Model No. **CF-H2** series



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Getting Started

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Troubleshooting

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Appendix

For further information about the computer, you can refer to the on-screen manual.
To access the on-screen manual
→ page 18 "On-screen Manual"

Introduction

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

In these instructions, the names are referred as follows.

Windows 7 indicates Genuine Windows® 7 Professional Operating System.

Windows XP indicates Genuine Microsoft® Windows® XP Tablet PC Edition Operating System.

■ Terms and illustrations in these instructions

→ : Page in these Operating Instructions or in the Reference Manual.



: Reference to the on-screen manuals.

CAUTION : Conditions that may result in minor or moderate injury.

NOTE : Useful and helpful information.

Click : Touch the screen with the digitizer pen.

Right-click : Touch and hold with the digitizer pen, or press and hold the right button, and then touch the object.

Windows 7

 (Start) - [All Programs] :

Click , and then click [All Programs].

Windows XP

[start] - [All Programs] :

Click [start], and then click [All Programs].

You may need to double-click in some cases.

<Only when connected to the external keyboard>

 : Press [] (Enter) key.

Ctrl + F7: Press and hold **Ctrl** key, and then press **F7** key.

- The display of the key may be different from this manual according to the keyboard used. (e.g. “Delete” instead of “Del”)

<For flash memory model>

Read the term “hard disk” as “flash memory” whenever it appears in this manual.

- 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.
 - “Genuine Windows® 7 Professional 32-bit Service Pack 1” and “Genuine Windows® 7 Professional 64-bit Service Pack 1” as “Windows” or “Windows 7”
 - “Genuine Microsoft® Windows® XP Tablet PC Edition Service Pack 3” as “Windows” or “Windows XP”
 - “Multilingual User Interface” as “MUI”
 - The computer screen supporting touching methods (using digitizer pen / stylus / your fingers) as the “screen”.
 - The digitizer pen and the stylus as the “pen (included)”.

■ Disclaimer

Computer specifications and manuals are subject to change without notice. Panasonic Corporation assumes no liability for damage incurred directly or indirectly from errors, omissions or discrepancies between the computer and the manuals.

■ Trademarks

Microsoft®, Windows® and the Windows logo are registered trademarks of Microsoft Corporation of the United States and/or other countries.

Intel and Intel Core are either registered trademarks or trademarks of Intel Corporation.

Adobe, the Adobe logo and Adobe Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.

Bluetooth™ is a trademark owned by Bluetooth SIG, Inc., U.S.A. and licensed to Panasonic Corporation.

Names of products, brands, etc., appearing in this manual are trademarks or registered trademarks of their respective own companies.

Read Me First

Models for Europe

<Only for model with a “CE Ⓢ” mark on the Rear of the computer>

Declaration of Conformity (DoC)



“Hereby, Panasonic declares 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 above mentioned products, please contact our web address: <http://www.doc.panasonic.de>

Authorised Representative:

Panasonic Testing Centre
Panasonic Marketing Europe GmbH
Winsbergring 15, 22525 Hamburg, Germany

Network connection of Wired Modem.

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

In all the countries of European Economical Area and Turkey;

- Public Switched Telephony Networks

Technical Features of Wired Modem.

The terminal equipment includes the following features;

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

Indication of the countries where WLAN is intended to be used:

AT BE BG CH CY CZ DE DK EE ES
FI FR GB GR HU IE IS IT LT LU
LV MT NL NO PL PT RO SE SI SK TR

18-25-E-1

<Only for model with a “CE” mark on the Rear of the computer>

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18-E-1

Read Me First

Models for UK

Warning

This apparatus must be earthed for your safety.

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

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

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

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

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 3 amp fuse is fitted in this plug.

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

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

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

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

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

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

If a new plug is to be fitted please observe the wiring code as shown below.

If in any doubt please consult a qualified electrician.

Warning: THIS APPLIANCE MUST BE EARTHED.

Important


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

Green-and-yellow: Earth

Blue: Neutral

Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured GREEN-and-YELLOW must be connected to the terminal in the plug which is marked by the letter E or by the safety earth symbol  coloured GREEN or GREEN-and-YELLOW.

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

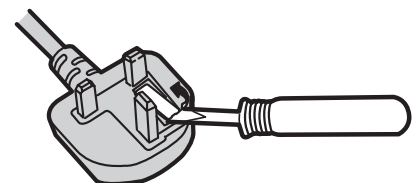
The wire which is coloured Brown must be connected to the terminal which is marked with the letter L or coloured RED.

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

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

■ How to replace the fuse

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



Warnings

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

This equipment is produced to BS800/1983.

Information to the User

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

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

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 modem. 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 modem 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 modem 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 modem away from the pacemaker, while it is on.



Switch off Personal Computer or Handheld Computer incorporating wireless WAN modem 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. For details on usage of this unit in aircrafts please consult and follow instruction provided by the airline.



Do not operate Personal Computer or Handheld Computer incorporating wireless WAN modem 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 modem 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 modem 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 modem while driving a vehicle. Do not place the computer with wireless WAN modem 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 modem 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 modem is placed in the air bag deployment area may be propelled with great force and cause serious injury to occupants of the vehicle.

Read Me First

SOS

IMPORTANT!

Personal Computer or Handheld Computer incorporating wireless WAN modem 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 modem must be switched on and in a coverage 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 modem.

Lithium Battery

Lithium Battery!

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

Warning!

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

15-E-1

Information for RF Exposure

- 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.

Notice for the products using LCD

- This product has a fluorescent lamp that contains mercury. Disposal may be regulated in your community due to environmental considerations.
For disposal or recycling information, please contact your local authorities.

Precautions

THIS PRODUCT IS NOT INTENDED FOR USE AS, OR AS PART OF, NUCLEAR EQUIPMENT/SYSTEMS, AIR TRAFFIC CONTROL EQUIPMENT/SYSTEMS, AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS^{*1}, MEDICAL DEVICES OR ACCESSORIES^{*2}, LIFE SUPPORT SYSTEMS OR OTHER EQUIPMENTS/DEVICES/SYSTEMS THAT ARE INVOLVED WITH ENSURING HUMAN LIFE OR SAFETY. 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 Class 2 Electronic Flight Bag (EFB) Systems and Class 1 EFB Systems when used during critical phases of flight (e.g., during take-off and landing) and/or mounted on to the aircraft. Class 1 EFB Systems and 2 EFB Systems are defined by FAA: AC (Advisory Circular) 120-76A or JAA: JAA TGL (Temporary Guidance Leaflets) No.36.

^{*2} As defined by the European Medical Device Directive (MDD) 93/42/EEC.

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

The CF-H2 was developed based on extensive research into the real-world portable computing environments. Pursuit of usability and reliability under harsh conditions led to innovations such as the use of magnesium alloy, vibration damped hard disk drive, flexible internal connections. The CF-H2's outstanding engineering has been tested using the strict MIL-STD- 810F (for vibration and shock) and IP (for dust and water) based procedures.

As with any portable computer device precautions should be taken to avoid any damage. The following usage and handling procedures are recommended.

Before putting the computer away, be sure to wipe off any moisture.

If a Malfunction or Trouble Occurs, Immediately Stop Use

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 or trouble occurs, immediately turn the power off and unplug the AC plug, and then remove the battery pack. Then contact your technical support office for repair.

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 from 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.

Close the Connector Cover Tightly When Using This Product Where Is a Lot of Water, Moisture, Steam, Dust, Oily Vapors, etc.

The entry of foreign matter may cause a fire or electric shocks.

- If foreign matter has found its way inside, immediately turn the power off and unplug the AC cord, and then remove the battery pack. Then contact your technical support office.

Do Not Disassemble This Product

You may receive an electric shock, or foreign matter may enter and result in a fire.

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 Leave This Product in High Temperature Environment for a Long Period of Time

Leaving this product where it will be exposed to extremely high temperatures such as near fire 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 (supplied with the unit or one sold separately as an accessory) 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 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 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 1000BASE-T, 100BASE-TX or 10BASE-T
- Phone lines (IP phone (Internet Protocol Telephone), Telephone lines, internal phone lines (on-premise switches), digital public phones, etc.)

<Only for CF-H2A series>

Do Not Expose the Skin To This Product When Using the Product In A Hot Or Cold Environment

Burns, low-temperature burns, or frostbite may result.

- When it is necessary to expose the skin to this product such as to scan a fingerprint, perform the operation in the shortest time possible.

- 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.
- This computer is not intended for the display of images for use in medical diagnosis.
- This computer is not intended for a use with connection of medical equipment for the purpose of medical diagnosis.
- Panasonic shall not be liable for loss of data or other incidental or consequential damages resulting from the use of this product.

Interface Cable

Use of an interface cable longer than 3 m is not recommended.

11-E-1

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.

- If this product is subjected to a strong impact, stop using it immediately.

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-VZSU53AW) 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).

When the Battery Pack Has Deteriorated, Replace It With a New One

Continued use of a damaged battery pack may result in heat generation, ignition or battery rupture.

- Do not touch the terminals on the battery pack. The battery pack may no longer function properly if the contacts are dirty or damaged.
- Do not expose the battery pack to water, or allow it to become wet.
- If the battery pack will not be used for a long period of time (a month or more), charge or discharge (use) the battery pack until the remaining battery level becomes 30% to 40% and store it in a cool, dry place.
- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% 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

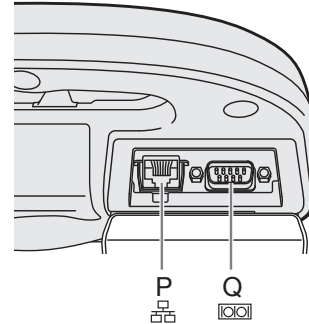
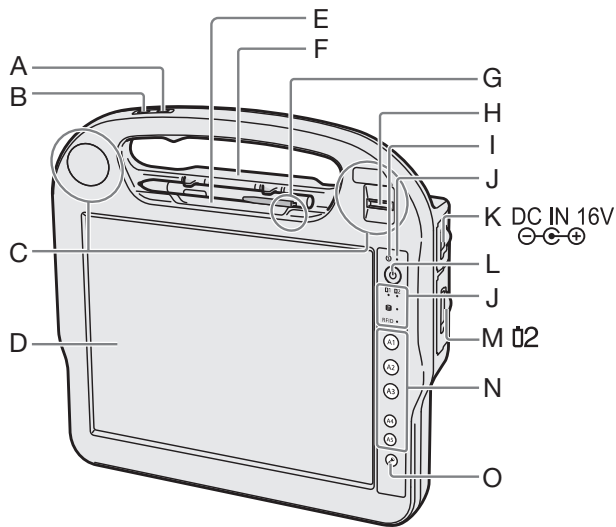
- The battery pack may become warm during recharging or normal use. This is completely normal.
- Recharging will not commence if internal temperature of the battery pack is outside of the allowable temperature range (0 °C to 50 °C). (→  *Reference Manual* "Battery Power") Once the allowable range requirement is satisfied, charging begins automatically. Note that the recharging time varies based on the usage conditions. (Recharging takes longer than usual when the temperature is 10 °C or below.)
- In high-temperature environments, the battery takes longer to fully recharge and the operating time is shorter. Only use the computer within the allowable temperature range.
- This computer has a high temperature mode function that prevents the degradation of the battery in high temperature environments. (→  *Reference Manual* "Battery Power") A level corresponding to a 100% charge for high temperature mode is approximately equivalent to an 80% charge level for normal temperature mode.
- 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.

CAUTION:

Risk of Explosion if Battery is replaced by an Incorrect Type.
Dispose of Used Batteries According to the Instructions.

58-E-1

Description of Parts



A: B1 Button

<Only for model with RFID Reader>

→ *Reference Manual* “RFID Reader”, “Hardware Buttons”

<Only for model without RFID Reader>

→ *Reference Manual* “Hardware Buttons”

B: Barcode Reader Button^{*1}/ B2 Button^{*2}

^{*1} Only for model with Barcode Reader

^{*2} Only for model without Barcode Reader

→ *Reference Manual* “Setup Utility”, “Barcode Reader”

C: Wireless WAN Antenna

<Only for model with wireless WAN>

→ *Reference Manual* “Wireless WAN”

D: LCD

→ *Reference Manual* “Screen Input Operation”

E: Pen Holder

F: Smart Card Slot

<Only for model with Smart Card Slot>

→ *Reference Manual* “Smart Card”

G: Bluetooth Antenna

<Only for CF-H2A series with Bluetooth>

→ *Reference Manual* “Bluetooth”

H: Fingerprint Reader

<Only for model with Fingerprint Reader>

→ *Reference Manual* “Fingerprint Reader”

I: Ambient Light Sensor

Backlight will be turned off with a bright environment so the battery operation time becomes long.

→ *Reference Manual* “Setup Utility”

J: LED Indicator

Ⓛ : Power status

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

Windows 7 : Sleep

Windows XP : Standby

Ⓛ1 : Battery 1 status

→ *Reference Manual* “Battery Power”

Ⓛ2 : Battery 2 status

→ *Reference Manual* “Battery Power”

Ⓛ3 : Hard disk drive status

RFID:

<Only for model with RFID Reader>

RFID Reader status

→ *Reference Manual* “RFID Reader”

K: DC-IN Jack

L: Power Switch

M: Battery 2 Case

N: Application buttons 1-5

→ *Reference Manual* “Hardware Buttons”

O: Security Button

P: LAN Port^{*3} / 2nd USB 2.0 Port^{*4}

^{*3} Only for model with LAN

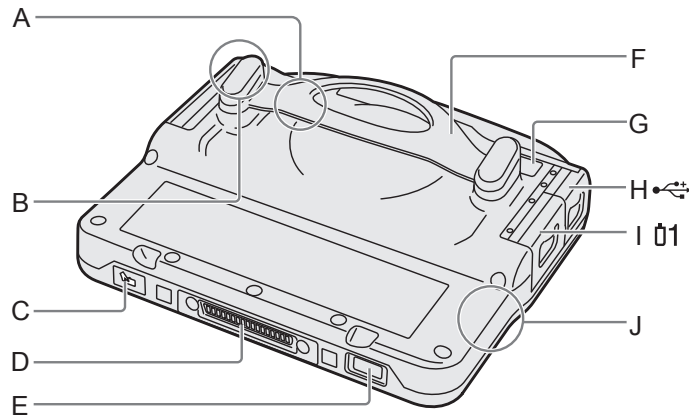
^{*4} Only for model with 2nd USB Port

Q: Serial Port

→ *Reference Manual* “Serial Port”

Description of Parts

Rear



A: GPS Antenna

<Only for model with GPS>

B: Wireless LAN Antenna

<Only for model with wireless LAN>

→ *Reference Manual* "Wireless LAN"

C: RFID Reader

<Only for model with RFID Reader>

→ *Reference Manual* "RFID Reader"

D: Expansion Bus Connector

→ *Reference Manual* "Cradle"

E: Barcode Reader

<Only for model with Barcode Reader>

→ *Reference Manual* "Barcode Reader"

F: Strap

G: Camera

<Only for model with Camera>

→ *Reference Manual* "Camera"

H : USB 2.0 Port

→ *Reference Manual* "USB Devices"

I: Battery 1 Case

<Only for model with wireless WAN>

The SIM Card Slot is inside the Battery Case.

→ *Reference Manual* "wireless WAN"

J: Wireless LAN Antenna

<Only for CF-H2A series>

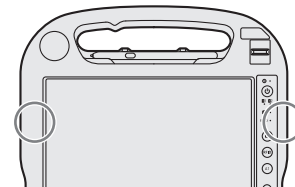
Wireless LAN Antenna / Bluetooth Antenna

<Only for CF-H2B series>

→ *Reference Manual* "Wireless LAN" "Bluetooth"

NOTE

- This computer contains a magnet and magnetic products at the battery cover. Avoid leaving metallic object or magnetic media in contact with these areas.



<Only for model with wireless WAN>

- IMEI (International Mobile Equipment Identity) is listed on the label in the Battery 1 case.

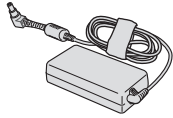
Preparation

■ Confirmation

① Check and identify the supplied accessories.

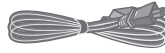
If you do not find the described accessories, contact Panasonic Technical Support.

• **AC Adaptor** 1

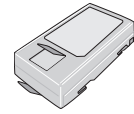


Model No: CF-AA6373A

• **AC Cord** 1



• **Battery Packs** . . . 2



Model No: CF-VZSU53AW

<Only for model with digitizer>

• **Digitizer Pen** 1

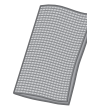
<For CF-H2A series> <For CF-H2B series>



• **Tether** 1

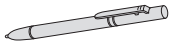


• **Soft cloth** 1



<Only for model with touchscreen>

• **Stylus** 1



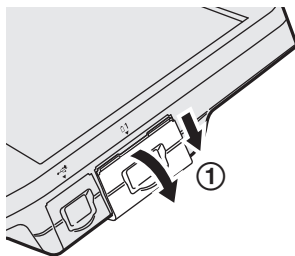
• **OPERATING INSTRUCTIONS (This book)** 1

• **Product Recovery DVD-ROM Windows® 7 Professional SP 1** 1 Set

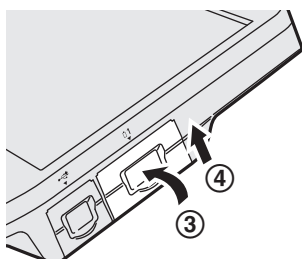
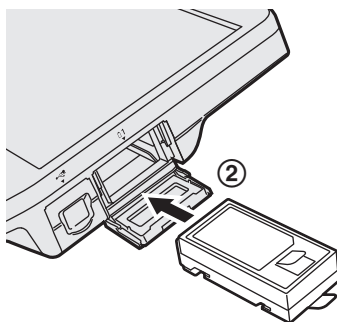
② Read the LIMITED USE LICENSE AGREEMENT before breaking the seal on the computer's packaging (→ page 26).

■ Inserting the Battery Packs

Insert the battery pack to 2 battery cases.



- ① Slide the battery cover and open it.
- ② Insert the battery pack until it securely fits the connector.
- ③ Close the battery cover.
- ④ Slide the battery cover until it clicks.



CAUTION


- The computer does not operate without the battery cover locked.
- 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.

Preparation

About the battery for this computer

This computer uses 2 battery packs.

The battery is charged (→ page 13) and power is consumed only on either battery pack. These operations switch to the other battery pack automatically.

- When the computer is connected to the Cradle (optional), the battery pack is charged when the AC adaptor is connected to the Cradle.
- With the battery charger (optional) or the Cradle (optional), you can remove the empty battery pack from the computer and charge it while using the computer.
- You can insert or remove the battery pack while the computer is ON. Be sure not to remove the battery pack being used by mistake. (→  Reference Manual "Battery Power")
- Charge the battery earlier when the battery indicator lights in red.
- About Battery Recalibration

The battery recalibration may take a long time due to the large battery capacity. This is not a malfunction.

- Full charge: Approximately 3 hours with 2 batteries
- Complete discharge: Approximately 4 hours with 2 batteries


(→  Reference Manual "Battery Power")

NOTE

- To conserve power, the following power saving methods are set at the time of purchase (when computer is plugged in).

Windows 7

- The screen automatically turns off after 10 minutes of inactivity.
- The computer automatically enters sleep^{*1} after 20 minutes of inactivity.

^{*1} →  Reference Manual "Sleep/Standby and Hibernation Functions" about resuming from sleep.

Windows XP

- The screen automatically turns off after 15 minutes of inactivity.
- The computer automatically enters standby^{*2} after 20 minutes of inactivity.

^{*2} →  Reference Manual "Sleep/Standby and Hibernation Functions" about resuming from standby.

- 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. 10 days
- In sleep (**Windows 7**) / standby (**Windows XP**) : Approx. 3 days
- In hibernation: Approx. 6 days

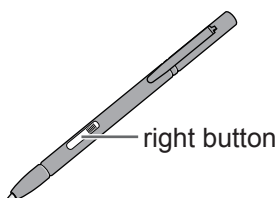
- When the DC plug is not connected to the computer, disconnect the AC cord from your AC wall outlet. Power is consumed simply by having the AC adaptor plugged into an electrical outlet.

Power consumption in each mode is as follows. (When AC adaptor is connected)

- When the screen is off: Approx. 9.5 W
- In sleep (**Windows 7**) / standby (**Windows XP**) : Approx. 0.95 W
- The battery pack is fully charged (or not being charged) and the computer is off: Approx. 0.6 W

<Only for model with digitizer>

■ Using the digitizer pen



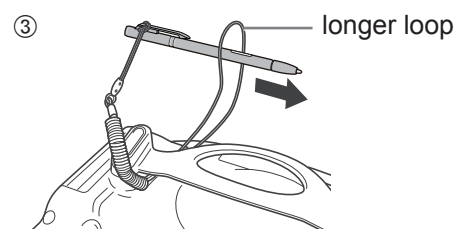
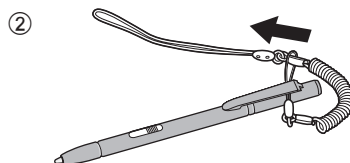
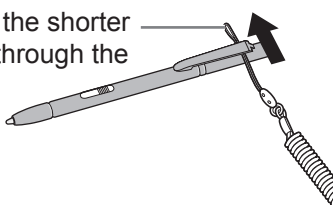
You can use Windows by touching screen in the same way as the mouse. Touch the screen surface with the digitizer pen (included).

To right-click

Touch and hold with the digitizer pen, or press and hold the right button, and then touch the object.

■ Attaching the pen (included) to the computer

- ① Pass the shorter loop through the hole.

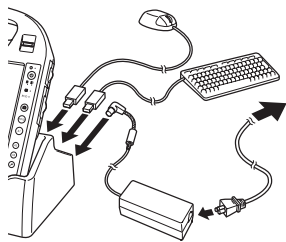


CAUTION

- Do not pull the tether with excessive force. The pen (included) may hit the computer, person's body or other objects when released.

First-time Operation

■ Setting up the computer

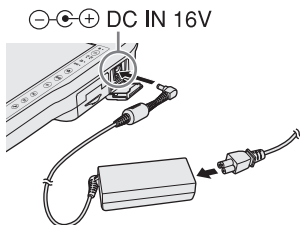


1 Set your computer to the Cradle.

- Set the computer to the cradle, and connect the external keyboard and mouse to the cradle.
- Connect the AC adaptor to the Cradle and a power outlet. The battery charging starts automatically.

CAUTION


- Do not remove the computer from the Cradle 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, Cradle, keyboard, mouse 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.




NOTE

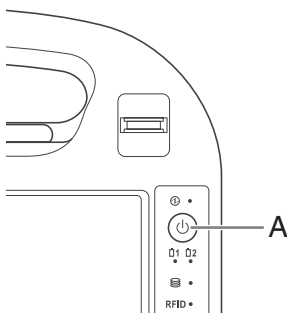
- After Windows setup, alternatively you can use without Cradle. In that case, connect your computer to a power outlet. The battery charging starts automatically.

2 Turn on the computer.

- ① Press the power switch (A). The power indicator  lights.


CAUTION

- Do not press the power switch repeatedly.
- The computer will forcibly be turned off if you press and hold the power switch for 4 seconds or longer.
- Once you turn off the computer, wait for 10 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
 - Pressing the power switch
 - Touching the screen, external keyboard or external mouse
- 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 Panasonic Technical Support.
- Any changes from the default setting of the Setup Utility must not be made until the “First-time Operation” procedure is completed.



3 Setup Windows.

① Follow the on-screen instructions.

- The computer restarts several times. Do not touch the keyboard or mouse, and wait until the hard disk drive indicator  has turned off.

Windows 7

- After the computer is turned on, the screen remains black or unchanged for a while, but this is not a malfunction. Wait for a moment until the Windows setup screen appears.
- During setup of Windows, use the mouse 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.
- “Join a wireless network” screen may not appear.
You can set the Wireless Network after the setup of Windows is complete.

<For MUI OS model>

Windows 7

- Select OS language on “Setup Windows” screen and click [Next].
- Carefully choose your language because you cannot change it later. If you set a wrong language, you need to reinstall Windows (→ page 20).

Windows XP

- For some languages, the characters on the key and input character may not match. Set the keyboard properly after the setup is completed. Then set the password.

CAUTION

- 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.
- After setup of Windows, keyboard operations may not work correctly depending on the type of keyboard. If this occurs, refer to “Troubleshooting (Basic)” . (→ page 25).

Windows 7

- Do not use the following words for user name: CON, PRN, AUX, CLOCK\$, NUL, COM1 to COM9, LPT1 to .LPT9, @. In particular, if you create a user name (account name) that includes the “@” mark, a password will be requested at the log-on screen, even if no password has been set. If you try to log on without entering a password, “The user name or password is incorrect.” may be displayed and you will not be able to log on to Windows (→ page 22).
- Use standard characters as a computer name: numbers 0 through 9, uppercase and lowercase letters from A to Z, and the hyphen (-) character.
If the error message “The computer name is not valid” appears, check if characters other than the above are not entered. If the error message still remains on the display, set the key entry mode to English (“EN”) and enter characters.

<For MUI OS model>

- When setting up the keyboard, choose the appropriate one to your computer. Otherwise, input by the keyboard may become unavailable.

Windows XP

- The input panel is displayed on “Welcome to the Windows XP Setup Wizard”. Move “Welcome to the Windows XP Setup Wizard” and make sure that the “Welcome to the Windows XP Setup Wizard” and the input panel do not overlap.
- You cannot choose the following words for user name and password: CON, PRN, AUX, CLOCK\$, NUL, COM1 to COM9, LPT1 to LPT9.
- When you set date/time/time zone and click [Next], the screen may not go to the next step for a few minutes. Do not touch the keyboard or mouse, and wait until the screen changes.
- If “An unexpected error has occurred ...” (or a similar message) is displayed, click [OK]. This is not a malfunction.
- To match the languages, change the language settings after setting up Windows (→ page 15). Do not change the settings in [To change system or these settings, click Customize] of [Regional and Language Options] during setting up Windows.

4 <For MUI OS model> Change the language settings.

<Languages installed in this computer>

• English	• Dutch	• Finnish	• French
• German	• Italian	• Norwegian	• Russian
• Spanish	• Swedish	• Turkish	
• Arabic	• Bulgarian	• Chinese (Simplified)	
• Chinese (Traditional)	• Croatian	• Czech	
• Danish	• Estonian	• Greek	• Hebrew
• Hungarian	• Japanese	• Korean	• Latvian
• Lithuanian	• Polish	• Portuguese	
• Portuguese (Brazilian)	• Romanian	• Slovak	
• Slovenian	• Thai		

Change the language settings in the following menu.

[start] - [Control Panel] - [Date, Time, Language, and Regional Options] - [Regional and Language Options]

- [Regional Options] - [Standards and Formats]
- [Languages] - [Language used in menus and dialogs]
- [Languages] - [Details] - [Default input language]
- [Advanced] - [Language for non-unicode Programs]

NOTE

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

5 Perform the screen calibration.

NOTE

- Before performing the calibration, close Tablet PC Input Panel.

Windows 7

Before performing the calibration, rotate the display to primary landscape.

<Only for model with digitizer>

- ① Click **Windows 7** (Start) / **Windows XP** [start] - [All Programs] - [Panasonic] - [Calibration Utility].
- ② **Windows 7** If [User Account Control] is displayed, click [Yes].
- ③ Click [Pen input (digitizer)].
- ④ Using the digitizer pen, touch each of the “+” target marks one by one, and then click [Yes].
- ⑤ Repeat step ① and ②.
- ⑥ Click [Touch input].
- ⑦ Using your finger, touch each of the “+” target marks one by one, and then click **Windows 7** [Yes] / **Windows XP** [OK].

<Only for model with touchscreen>

- ① Click **Windows 7** (Start) / **Windows XP** [start] - [All Programs] - [Panasonic] - [Calibration Utility].
- ② **Windows 7** If [User Account Control] is displayed, click [Yes].
- ③ Click [Start].
- ④ Using the stylus, touch each of the “+” target marks one by one, and then click **Windows 7** [Yes] / **Windows XP** [OK].

Windows XP

6 Create a new account.

- ① Click [start] - [Control Panel] - [User Accounts] - [Create a new account].

CAUTION

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

NOTE

● PC Information Viewer

This computer periodically records the management information of the hard disk, etc. The maximum data volume for each record is 1024 bytes. This information is 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 “Checking the Computer’s Usage Status”)

■ Precaution against Starting Up/Shutting Down

- Do not do the following
 - Connecting or disconnecting the AC adaptor
 - Pressing the power switch
 - Touching the screen or external mouse


■ Precaution against Logging on to Windows

- Do not log on to Windows by the Guest account.

Windows 7

■ 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. In the default setting, you can use a single partition.

- 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.
 - To select [Reinstall to the first 2 partitions.] in reinstalling Windows 7 (→ page 20), 30000 MB^{*1} or more is necessary for [Total size after shrink in MB].
- 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.

^{*1} For MUI OS model, 60000 MB or more is necessary.

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.

Windows XP

■ Hard Disk Backup/Restore

- Use the commercial software to backup the entire data on the hard disk drive.

On-screen Manual

You can access the Reference Manual on the computer screen.

■ Reference Manual

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

To access the Reference Manual:

Windows 7

① Double-click  on the desktop.

- Alternatively click  (Start) - [All Programs] - [Panasonic] - [On-Line Manuals] - [Reference Manual].


Windows XP

① Click [start] - [Reference Manual].

"Battery Power" of the Reference Manual will be displayed by following steps.

Windows 7

① Double-click  on the desktop.

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

Windows XP

① Double-click  on the desktop.

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

NOTE

- When you access the document of PDF format for the first time, the License Agreement of the Adobe Reader may be displayed. Read it carefully and select [Accept] to proceed.
- 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

- Temperature: Operation : <Only for CF-H2A series> -10 °C to 50 °C (IEC60068-2-1, 2)^{*1}
<Only for CF-H2B series> 5 °C to 35 °C

Storage : -20 °C to 60 °C

Humidity: Operation : 30% to 80% RH (No condensation)

Storage : 30% to 90% RH (No condensation)

Even within the above temperature/humidity ranges, using for a long time in an extreme environment will result in the product deterioration and will shorten the product life.

^{*1} Do not expose the skin to this product when using the product in a hot or cold environment. (→ page 7) If the computer is wet in temperatures of 0 °C or below, freeze damage may occur. Make sure to dry off the computer in such temperatures.

- Do not place the computer in the following areas, otherwise the computer may be damaged.
 - Near electronic equipment. Image distortion or noise may occur.
 - 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 LCD and 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.
 - Do not drop or hit the computer against solid objects.
 - 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.
 - Be careful of computer drop resulting from the hand strap damage.
 - Use only the included digitizer pen to touch the screen. 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).
 - Do not use the digitizer pen when dust or dirt (e.g., oil) is on the screen. Otherwise foreign particles on the screen or digitizer pen can scratch the screen surface or obstruct the operation.
 - Use the digitizer pen only for touching the screen. Using it for any other purpose may damage the digitizer pen and result in scratches on the screen.
- **Preventing your computer from unauthorized use via wireless LAN/Bluetooth/Wireless WAN**
- Before using wireless LAN/Bluetooth/Wireless WAN, make the appropriate security settings such as data encryption.

Maintenance

<Only for CF-H2B series>


To clean the computer

Wipe with a soft dry cloth such as gauze. If needed, use alcohol cleaning agent to clean the computer.

<Only for CF-H2A series>

Do not use rubbing alcohol.

To clean the LCD panel

Use the soft cloth included with the computer. (For further information, refer to "Suggestions About Cleaning the LCD Surface" (→  Reference Manual "Screen Input Operation").

To clean areas other than the LCD panel

Wipe with a soft dry cloth such as gauze. When using detergent, dip a soft cloth in water-diluted detergent and wring it thoroughly.

CAUTION

- Do not use ester contained agent, strong alkaline agent, benzene or thinner 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.

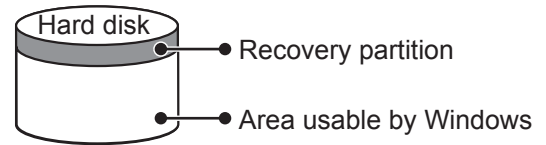
Reinstalling Software

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

- You can reinstall Windows 7 only.
- Do not delete the Recovery partition on the hard disk. The disk space in the partition is not available to store data.



Preparation

- Prepare the following items:
 - Product Recovery DVD-ROM (included)
 - USB DVD drive (optional) (refer to recent catalogs and other sources for information about the products available)
 - Cradle (optional)
 - External keyboard
 - Mouse
- Remove all peripherals (except for the external keyboard, mouse and DVD drive).
- Connect the AC adaptor to the Cradle and do not remove it until reinstallation is complete.

- 1 **Turn off the computer and set the computer to the Cradle.**
- 2 **Connect the DVD drive and an external keyboard and mouse to the USB port.**
- 3 **Turn on the computer, and press **F2** or **Del** while [Panasonic] boot screen is displayed.**

The Setup Utility starts up.

- If the [Panasonic] boot screen is not displayed, turn on the computer while holding down **F2** or **Del**.
- If the password is requested, enter the Supervisor Password.

- 4 **Write down all of the contents of the Setup Utility and press **F9**.**

At the confirmation message, select [Yes] and press **↵** (Enter).

- 5 **Press **F10**.**

At the confirmation message, select [Yes] and press **↵** (Enter).

The computer will restart.

- 6 **Press **F2** or **Del** while [Panasonic] boot screen is displayed.**

The Setup Utility starts up.

- If the password is requested, enter the Supervisor Password.

- 7 **Set the Product Recovery DVD-ROM into the DVD drive.**

- 8 **Select the [Exit] menu, then select your DVD drive in [Boot Override].**

- 9 **Press **↵** (Enter).**

The computer will restart.

- 10 **Click [Reinstall Windows] and click [Next].**

The License Agreement screen appears.

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

- 12 **Select the setting and click [Next].**

- [Reinstall Windows to the whole Hard Disk to factory default.]
Select this option when you want to reinstall Windows to the factory default. After reinstallation, you can create a new partition. For how to create a new partition, refer to "To change the partition structure" (→ page 17)
- [Reinstall to the first 2 partitions.]*¹
Select this option when the hard disk has already been divided into several partitions. For how to create a new partition, refer to "To change the partition structure" (→ page 17).
You can keep the partition structure.

*¹ This does not appear if Windows cannot be reinstalled to the recovery partition and the area usable by Windows.


- 13 **At the confirmation message, click [YES].**

Reinstallation starts according to the instructions on the screen. (It will take approximately 30 - 60 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.






-
- 14 Remove the Product Recovery DVD-ROM, and then click [OK] to turn off the computer, then remove the DVD drive.**
 - 15 Turn on the computer.**
 - If the password is requested, enter the Supervisor Password.
 - 16 Perform the steps 3 and 5 for setting up the computer (→ pages 14 to 16).**
 - 17 Start the Setup Utility and change the settings as necessary.**
 - 18 Perform Windows Update.**

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 Panasonic Technical Support. You can also check the computer's status in the PC Information Viewer (→  *Reference Manual* "Checking the Computer's Usage Status").

- When operating the computer with the keyboard, you need to set the computer to the Cradle and connect the external keyboard and AC adaptor to the Cradle.

■ Starting Up




<p>Cannot start up. The power indicator or battery indicator is not lit.</p>	<ul style="list-style-type: none"> ● Connect the AC adaptor. ● Insert a fully charged battery. ● Remove the battery pack and the AC adaptor, then connect them again. ● If a device is connected to the USB port, disconnect the device, or set [Legacy USB Support] to [Disabled] in the [Advanced] menu of the Setup Utility. (→  <i>Reference Manual</i> "Setup Utility")
<p>The power is turned on but "Warming up the system (up to 30 minutes)" appears.</p>	<ul style="list-style-type: none"> ● The computer is warming up before start up. Wait for the computer to start up (takes up to 30 minutes). If, "Cannot warm up the system" is displayed, the computer failed to warm up and does not start. In this case, turn off the computer, leave it in an environment of 5 °C or higher temperature for about an hour, and then turn on the power again.
<p>Cannot turn on the computer. The computer does not resume from sleep (Windows 7) /standby (Windows XP). (The power indicator blinks quickly in green.)</p>	<ul style="list-style-type: none"> ● Leave it in an environment of 5 °C to 35 °C for about an hour, then turn on the power again.
<p>You have forgotten the password.</p>	<ul style="list-style-type: none"> ● Supervisor Password or User Password: Contact Panasonic Technical Support. ● Administrator password: <ul style="list-style-type: none"> • If you have a password reset disk, you can reset the administrator password. Set the disk and enter any wrong password, then follow the on-screen instructions and set a new password. • If you do not have a password reset disk, reinstall (→ page 20) and set up Windows, and then set a new password.
<p>Windows 7 Cannot log on to Windows. ("The user name or password is incorrect." is displayed.)</p>	<ul style="list-style-type: none"> ● The user name (account name) includes an "@". ● If another user account exists: Log on to Windows using another user account, and delete the account that includes "@". Then create a new account. ● If no other account exists: You need to reinstall Windows (→ page 20).
<p>"Remove disks or other media. Press any key to restart" or a similar message appears.</p>	<ul style="list-style-type: none"> ● If a device is connected to the USB port, disconnect the device, or set [Legacy USB Support] to [Disabled] in the [Advanced] menu of the Setup Utility. (→  <i>Reference Manual</i> "Setup Utility") ● If the problem persists after having tried the above solutions, it may be a hard disk failure. Contact Panasonic Technical Support.
<p>Windows startup and operation is slow.</p>	<ul style="list-style-type: none"> ● Press F9 in the Setup Utility (→  <i>Reference Manual</i> "Setup Utility") to return the Setup Utility settings (excluding the passwords) to the default values. Start the Setup Utility and make the settings again. (Note that the processing speed depends on the application software, so this procedure may not make Windows faster.) ● Due to the overall performance capabilities of this computer, application startup and other operations may take longer to complete when compared to other computers. Examples: Applications do not start up immediately after Windows startup. Applications do not finish installing. The operation will complete in a few moments, so please wait until the hard disk drive indicator turns off. Be aware that the cursor will not always change from the arrow icon () to an hourglass icon () while you are waiting. ● If you installed a resident software after purchase, turn off the residence. <p>Windows 7</p> <ul style="list-style-type: none"> ● Disable the pop-up menu and Input Panel Tab. <ol style="list-style-type: none"> ① Open the Input Panel, and click [Tools] - [Options] - [Opening]. ② Remove the check mark of [Show Input Panel sliding open from the tab] and click [OK]. <p>Windows XP</p> <ul style="list-style-type: none"> ● Disable Indexing Service in the following menu. Click [start] - [Search] - [Change preferences] - [With Indexing Service (for faster local service)].

■ Starting Up

<p>The date and time are incorrect.</p>	<ul style="list-style-type: none"> ● Make the correct settings. <ul style="list-style-type: none"> ● Windows 7 Click  (Start) - [Control Panel] - [Clock, Language, and Region] - [Date and Time]. ● Windows XP Click [start] - [Control Panel] - [Date, Time, Language, and Regional Options] - [Date and Time]. ● If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support. ● When the computer is connected to LAN, check the date and time of the server. ● The 2100 A.D. or later year will not be correctly recognized on this computer.
<p>[Executing Battery Recalibration] screen appears.</p>	<ul style="list-style-type: none"> ● 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.
<p>[Enter Password] does not appear when resuming from sleep (Windows 7) /standby (Windows XP) or hibernation.</p>	<ul style="list-style-type: none"> ● The password you have set in the Setup Utility is not requested at resuming. To use the password security at resuming, set the Windows password. <ul style="list-style-type: none"> ● Windows 7 <ol style="list-style-type: none"> ① Click  (Start) - [Control Panel] - [User Accounts and Family Safety] - [Add or remove user accounts] and select the account, and set the password. ② Click  (Start) - [Control Panel] - [System and Security] - [Require a password when the computer wakes] and add a check mark for [Require a password]. ● Windows XP <ol style="list-style-type: none"> ① Click [start] - [Control Panel] - [User Accounts] and select the account, and set the password. ② Click [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced] and add a check mark for [Prompt for password when computer resumes from standby].
<p>Cannot resume.</p>	<ul style="list-style-type: none"> ● An error may occur when the computer automatically enters the sleep (Windows 7) / standby (Windows XP) or hibernation mode while the screensaver is active. In this case, turn off the screensaver or change the pattern of the screensaver. ● If you press and hold the power switch for 4 seconds or longer, the power will be turned off forcibly and the computer will not resume. In this case, all unsaved data will be lost. ● You disconnected the AC adaptor and the battery pack while the computer was in sleep (Windows 7) / standby (Windows XP). If the computer's power supply is disconnected in sleep (Windows 7) / standby (Windows XP), unsaved data will be lost and the computer will not resume. ● The battery is exhausted. Sleep (Windows 7) / standby (Windows XP) and hibernation consume some power.
<p>The error message "Debug Assertion Failed!" appears.</p>	<ul style="list-style-type: none"> ● This error message may appear in the following cases. <ul style="list-style-type: none"> • When you log on to Windows for the first time after setting up Windows with First-time Operation. • When you create a user account, and log on to Windows for the first time using that account. • When you log on to Windows for the first time after changing [Trigger Mode] in [Advanced] - [Serial Port Settings] of the Setup Utility. <p>In such case, click [Retry], and then click [Retry] on the next error message. The same error will not occur again after performing this operation.</p>

Troubleshooting (Basic)

Starting Up

Other startup problems.	<ul style="list-style-type: none"> ● Press F9 in the Setup Utility (→  Reference Manual “Setup Utility”) to return the Setup Utility settings (excluding the passwords) to the default values. Start the Setup Utility and make the settings again. ● Remove all peripheral devices. ● Check to see if there was a disk error. <p>Windows 7</p> <ol style="list-style-type: none"> 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]. <ul style="list-style-type: none"> • A standard user needs to enter an administrator password. ④ Select the option in [Check disk options] and click [Start]. ⑤ Click [Schedule disk check] and restart the computer. <p>Windows XP</p> <ol style="list-style-type: none"> ① Click [start] - [My Computer] and right-click [Local Disk(C:)], and click [Properties]. ② Click [Tools] - [Check Now]. ③ Select the option in [Check disk options] and click [Start]. <ul style="list-style-type: none"> ● Start the computer in Safe Mode and check the error details. When the [Panasonic] boot screen disappears*¹ at startup, press and hold F8 until the Windows Advanced Options Menu is displayed. <p>*¹ When [Password on boot] is set to [Enabled] in the [Security] menu of the Setup Utility, [Enter Password] appears after the [Panasonic] boot screen disappears. As soon as you enter the password and press  (Enter), press and hold F8.</p>
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Shutting down

Windows does not shut down.	<ul style="list-style-type: none"> ● Remove the computer from the Cradle. ● Wait one or two minutes. It is not a malfunction.
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Display

No display.	<ul style="list-style-type: none"> ● When using an external display, <ul style="list-style-type: none"> • 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 (Windows 7) / standby (Windows XP) or hibernation by the power-saving function. To resume, press the power switch. <p>Windows XP</p> <ul style="list-style-type: none"> ● The screen may not be displayed even after the computer resumed from standby or hibernation. In this case, press the power switch to enter standby and resume the computer again.
The screen is dark.	<ul style="list-style-type: none"> ● The screen might be darker when the AC adaptor is not connected. Adjust the brightness by using Panasonic Dashboard. As you increase the brightness, battery consumption increases. <p>You can separately set the brightness for when the AC adaptor is connected and when not connected.</p>
The screen is disordered.	<ul style="list-style-type: none"> ● 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.
During Simultaneous display, one of the screens becomes disordered.	<ul style="list-style-type: none"> ● Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.). ● When using the Extended Desktop, use the same display colors for the external display as those used by the LCD. ● If you continue to experience problems, try changing the display. Right-click on the desktop, and click [Graphics Properties].
The external display does not work normally.	<ul style="list-style-type: none"> ● 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.


■ Display

<p>Windows 7 <Only for model with GPS> The cursor cannot be controlled properly.</p>	<ul style="list-style-type: none"> ● Operate the following steps. <ol style="list-style-type: none"> ① Set [GPS] to [Disabled] in the [Advanced] - [Serial Port Configuration] of the Setup Utility. ② Press F10 and select [Yes] at the confirmation message, and press ↵ (Enter). The computer will restart. ③ Log on to Windows as an administrator. ④ Click  (Start) and input "c:\util\drivers\gps\GPS.reg" in [Search programs and files], and press ↵ (Enter). ⑤ Click [Yes], click [Yes] and click [OK]. Then restart the computer. ⑥ Press F2 or Del while [Panasonic] boot screen is displayed. ⑦ Set [GPS] to [Enabled] in the [Advanced - Serial Port Configuration]. ⑧ Press F10 and select [Yes] at the confirmation message, and press ↵ (Enter).
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■ Screen Operation

<p>The cursor does not work.</p>	<ul style="list-style-type: none"> ● When using the external mouse, connect it correctly. ● Restart the computer using the keyboard. <p>Windows 7 Press ⊞ (Windows) and press → two times, and press ↑ to select [Restart] and press ↵ (Enter).</p> <p>Windows XP Press ⊞ (Windows), U and R to select [Restart].</p> ● If the computer does not respond to keyboard commands, read "No response." (→ below).
<p>Cannot point the correct position.</p>	<ul style="list-style-type: none"> ● Perform the screen calibration (→ page 16).

■ On-screen Document

<p>The document of PDF format is not displayed.</p>	<ul style="list-style-type: none"> ● Install Adobe Reader. <ol style="list-style-type: none"> ① Log on to Windows as an administrator. ② Windows 7 Click  (Start) and input "c:\util\reader\Pinstall.bat" in [Search programs and files] then press ↵ (Enter). Windows XP Click [start] - [Run], input "c:\util\reader\Pinstall.bat", then click [OK]. Follow the on-screen instructions. 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].
<p>Cannot close full screen mode of Adobe Reader.</p>	<ul style="list-style-type: none"> ● Click [Edit] - [Preferences] - [Full Screen] and add the check mark to [Show navigation bar] before starting full screen mode. ● If you started full screen mode without above setting, set the computer to the Cradle and connect the external keyboard to the Cradle, then press Esc.
<p>Cannot choose the menu language of Adobe Reader.</p>	<ul style="list-style-type: none"> ● From the following web site, download Adobe Reader of the language that you need, and install it. http://www.adobe.com/

■ Others

<p>No response.</p>	<ul style="list-style-type: none"> ● Press  button 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. ● Press the power switch for 4 seconds or longer to shut down the computer, and then press the power switch to turn it on. If the application program does not work normally, uninstall and reinstall the program. To uninstall: <p>Windows 7 Click  (Start) - [Control Panel] - [Uninstall a program].</p> <p>Windows XP Click [start] - [Control Panel] - [Add or Remove Programs].</p>
<p>The battery indicator lights in red.</p>	<ul style="list-style-type: none"> ● Connect the AC adaptor to charge the battery. The computer may not enter hibernation, even if [Hibernate] is selected as the action when the battery level becomes low.

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Specifications

This page provides the specifications for the basic model.
The model number is different according to the unit configuration.

- To check the model number:
Check the bottom of the computer or the box the computer came in at the time of purchase.
- To check CPU speed, memory size and the hard disk drive (HDD) size:
Run the Setup Utility (→  *Reference Manual* “Setup Utility”) and select [Information] menu.
[Processor Speed]: CPU speed, [Memory Size]: Memory size, [Hard Disk]: Hard disk drive size

■ Main Specifications

Model No.	CF-H2A series	CF-H2B series								
CPU/ Secondary cache memory	Intel® Core™ i5-2557M vPro™ Processor (1.70 GHz, with Turbo Boost up to 2.70 GHz, Intel® Smart Cache 3 MB ¹)									
Chipset	Mobile Intel® QM67 Express Chipset									
Main Memory	2 GB ¹ DDR3 SDRAM									
Video Memory	UMA (<32-bit> 773 MB ¹ Max ² ., <64-bit> 776 MB ¹ Max. ²)									
Hard Disk Drive	160 GB ³ Windows 7 Approx. 300 MB ¹ is used as a recovery partition. (Users cannot use this partition.)									
Display Method	10.1 XGA type (TFT) (1024 × 768 dots) 65,536/16,777,216 colors ⁴									
Wireless LAN ⁵	Intel® Centrino® Advanced-N 6205 (→ page 28 “Wireless LAN”)	Intel® Centrino® Advanced-N 6230 (→ page 28 “Wireless LAN”)								
Bluetooth™ ⁶	(→ page 28 “Bluetooth™”)									
GPS ⁷	Chip: SiRF starIII Accuracy: 10 m (2DRMS) <5 m (2DRMS, SBAS) Protocol message: GGA, GSA, GSV, RMC, VTG									
Wireless WAN ⁸	Ericsson F5521gw (→ page 28 “Wireless WAN”)									
LAN ⁹	IEEE 802.3 10BASE-T / IEEE 802.3u 100BASE-TX / IEEE 802.3ab 1000BASE-T									
Sound	WAVE and MIDI playback, Monaural speaker, Intel® High Definition Audio subsystem support									
Security Chip	TPM (TCG V1.2 compliant) ¹⁰									
Fingerprint Reader ¹¹	Array Size: 192×4 pixels, Image Size: 192×512 pixels, Image Resolution: 508 DPI									
Camera ¹²	Effective pixels: 2.0 Mpixels, reading pixels: Up to 1600×1200 pixels, LED functions: Mounted									
RFID reader ¹³	RF frequency: 13.56 MHz, compatible with ISO14443 TYPE-A, ISO14443 TYPE-B, ISO15693									
Barcode reader ¹⁴	Read Pattern: CMOS Reading, Light Source: LED, Minimum Optical Resolution: 1D - 0.127 mm, 2D - PDF417 0.17 mm, Angular Orientation Tolerances: Skew - ± 60° (“front to back”), Pitch - ± 60° from plane parallel to symbol (“side-to-side”), Ambient Light Immunity Artificial Lighting Sunlight: 100,000lx {9290 ft. candles}									
Smart Card Slot ¹⁵	1 slot									
Interface	USB ports (USB 2.0 × 1 or 2 ¹⁶) ¹⁷ / LAN Port (RJ-45) ⁹ / Serial Port (Dsub 9-pin male) / Expansion Bus Connector (Dedicated 19-pin female)									
Pointing Device	Touchscreen/Digitizer or Touchscreen									
Button	Handle × 2 ¹³ ¹⁴ , Application × 5, Security									
Power Supply	AC adaptor or Battery pack									
AC Adaptor ¹⁸	Input: 100 V to 240 V AC, 50 Hz/60 Hz, Output: 16.0 V DC, 3.75 A									
Battery Pack	Li-ion 7.2 V, 3400 mAh (typ.), 3200 mAh (min) x 2 packs									
<table border="1"> <tr> <td>Operating Time¹⁹</td> <td colspan="2">Approx. 6.5 hours</td> </tr> <tr> <td rowspan="2">Charging Time²⁰</td> <td>Power on</td> <td>Approx. 3 hours</td> </tr> <tr> <td>Power off</td> <td>Approx. 3 hours</td> </tr> </table>	Operating Time ¹⁹	Approx. 6.5 hours		Charging Time ²⁰	Power on	Approx. 3 hours	Power off	Approx. 3 hours		
	Operating Time ¹⁹	Approx. 6.5 hours								
	Charging Time ²⁰	Power on	Approx. 3 hours							
Power off		Approx. 3 hours								
Power Consumption ²¹	Approx. 30 W ²² / Approx. 50 W (Maximum when recharging in the ON state)									
Physical Dimensions (W × D × H) (excluding the hand strap)	274 mm × 58 mm × 268 mm									
Weight ²³ (including the hand strap)	Approx. 1.58 kg									
Operation Environment	Temperature: -10 °C to 50 °C (IEC60068-2-1, 2) ²⁴	Temperature: 5 °C to 35 °C								
	Humidity: 30% to 80% RH (No condensation)									
Storage Environment	Temperature: -20 °C to 60 °C									
	Humidity: 30% to 90% RH (No condensation)									

Specifications

■ Software

Base OS	Genuine Windows® 7 Professional
Installed OS ^{*25}	Windows 7 Genuine Windows® 7 Professional 32-bit Service Pack 1 / Genuine Windows® 7 Professional 64-bit Service Pack 1 Windows XP Genuine Microsoft® Windows® XP Tablet PC Edition Service Pack 3 ^{*26}
Pre-installed Software ^{*25}	Adobe Reader, PC Information Viewer, Loupe Utility, Intel® PROSet/Wireless Software Utility ^{*5} , Bluetooth™ Stack for Windows® by TOSHIBA ^{*6} , Wireless Switch Utility, Hand Writing Utility, Panasonic Dashboard, Application Button Setting Utility, Cleaning Utility, Wireless Connection Disable Utility ^{*27} , Display Switch Utility, Battery Recalibration Utility, Infineon TPM Professional Package ^{*10*27} , Protector Suite QL ^{*11*27} , Aptio Setup Utility, PC-Diagnostic Utility, MCA Configuration Editor, Camera Utility ^{*12*27} , Right Click Utility, Camera Light Switch Utility ^{*12*27} , Software Keyboard, Calibration Utility, Wireless WAN Manager ^{*8} Windows 7 Quick Boot Manager, Hard Disk Data Erase Utility ^{*28} Windows XP Icon Enlarger, CPU Idle Setting, Automatic Defragmentation Setting Utility

■ Wireless LAN <Only for model with wireless LAN>

Data Transfer Rates	IEEE802.11a : 54/48/36/24/18/12/9/6 Mbps (automatically switched) ^{*29} IEEE802.11b : 11/5.5/2/1 Mbps (automatically switched) ^{*29} IEEE802.11g : 54/48/36/24/18/12/9/6 Mbps (automatically switched) ^{*29} IEEE802.11n : (HT20) GI = 400ns: 150/130/115/86/72/65/57/43/28/21/14/7 Mbps (automatically switched) ^{*29} GI = 800ns: 130/117/104/78/65/58/52/39/26/19/13/6 Mbps (automatically switched) ^{*29} (HT40) GI = 400ns: 300/270/240/180/150/135/120/90/60/45/30/15 Mbps (automatically switched) ^{*29} GI = 800ns: 270/243/216/162/135/121/108/81/54/40/27/13 Mbps (automatically switched) ^{*29}
Standards Supported	IEEE802.11a / IEEE802.11b / IEEE802.11g / IEEE802.11n
Transmission method	OFDM system, DS-SS system
Wireless Channels Used	IEEE802.11a : Channels 36/40/44/48/52/56/60/64/100/104/108/112/116/120/124/128/132/136/140 IEEE802.11b/IEEE802.11g : Channels 1 to 13 IEEE802.11n : Channels 1-13/36/40/44/48/52/56/60/64/100/104/108/112/116/120/124/128/132/136/140
RF Frequency Band	IEEE802.11a : 5.18 GHz - 5.32 GHz, 5.5 GHz - 5.7 GHz IEEE802.11b/IEEE802.11g : 2.412 GHz - 2.472 GHz IEEE802.11n : 2.412 GHz - 2.472 GHz, 5.18 GHz - 5.32 GHz, 5.5 GHz - 5.7 GHz

■ Bluetooth™ <Only for model with Bluetooth>

Bluetooth Version	2.1 + EDR
Transmission method	FHSS system
Wireless Channels Used	79 Channels
RF Frequency Band	2.402 GHz - 2.480 GHz

■ Wireless WAN <Only for model with wireless WAN>

Data Communication	HSUPA	Category 6, 5.7 Mbps
	HSDPA (HSPA+)	Category 14, 21 Mbps
	UMTS	3GPP Release 7
	EDGE/ GPRS	MultiSlot Class 10 Circuit Switched Data
Other Features	SMS	Mobile Originated SMS (MO-SMS) Mobile Terminated SMS (MT-SMS)
	FAX	No Support
	Voice	No Support
SIM		1.8/3V SIM Support



*1 1 KB = 1,024 bytes / 1 MB = 1,048,576 bytes / 1 GB = 1,073,741,824 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. The size of Video memory is allotted depending on the operating system.

*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 Only for model with Wireless LAN.

- *6 Only for model with Bluetooth.
<Only for CF-H2B series>
Continua Certified, compliant design guideline version 1.5, with Blood Pressure Monitor, Cardiovascular, Weighing Scale, Thermometer, Pulse Oximeter and Glucose Meter device.
- *7 Only for model with GPS.
- *8 Only for model with wireless WAN.
- *9 Only for model with LAN.
Some devices cannot be used depending on the port type.
- *10 Only for model with that supports TPM.
For information on TPM, **Windows 7** click  (Start) and input "c:\util\drivers\tpm\index.hta" in [Search programs and files] and press  (Enter), and refer to the Installation Manual of "Trusted Platform Module (TPM)".
Windows XP click [start] - [Run] and input "c:\util\drivers\tpm\index.hta", and refer to the Installation Manual of "Trusted Platform Module (TPM)".
- *11 Only for model with Fingerprint Reader.
- *12 Only for model with Camera.
- *13 Only for model with RFID Reader.
- *14 Only for model with Barcode reader.
- *15 Only for model with Smart Card Slot.
- *16 Only for model with 2nd USB 2.0 port.
- *17 Does not guarantee operation of all USB-compatible peripherals.
- *18 The AC adaptor is compatible with power sources up to 240 V AC adaptor.
The unit for North America (identified by the suffix 'M' on the model number) is supplied with a 125 V AC compatible AC cord.
20-M-1-1
- *19 Measured using MobileMark™ 2007 (LCD brightness: 60 cd/m²).
Varies depending on the usage conditions, or when an external device is attached.
- *20 Varies depending on the usage conditions.
- *21 Approx. 0.6 W when the battery pack is fully charged (or not being charged) and the computer is OFF.
<When using with 115 V AC>
Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.2 W) simply by having the AC adaptor plugged into an AC outlet.
<When using with 240 V AC>
Even when the AC adaptor is not connected to the computer, power is consumed (Max. 0.3 W) simply by having the AC adaptor plugged into an AC outlet.
- *22 Rated power consumption. 23-E-1
- *23 Average value. May differ depending on models.
- *24 Do not expose the skin to this product when using the product in a hot or cold environment. (→ page 7)
When using in hot or cold environment, some peripherals may fail to work properly. Check the operation environment of the peripherals.
Using this product continuously in a hot environment will shorten the product life. Avoid use in these types of environments.
When using in low temperature environment, startup may become slow or battery operation time may become short. The computer consumes power when the hard disk is warming up during startup. Therefore, if you are using battery power and the remaining power is low, the computer may not start up.
- *25 Operations of this computer are not guaranteed except for the pre-installed OS and the OS which is installed by using the Product Recovery DVD-ROM (included) provided by Panasonic. Some parts of the software in the Product Recovery DVD-ROM may not be installed depending on a model.
- *26 The downgrade service is available only for corporate users who fulfill certain conditions.
- *27 Must be installed before use.
- *28 The Product Recovery DVD-ROM is required.
- *29 These are speeds specified in IEEE802.11a/b/g/n standards. Actual speeds may differ.

Standard Limited Warranty

PANASONIC COMPUTER PRODUCTS EUROPE

Panasonic Computer Products Europe (referred to as "Panasonic") will repair this product (other than software, which is treated in a different section of this warranty) with new or refurbished parts, from the date of original purchase in the event of a defect in materials or workmanship. This warranty only applies to new Panasonic Toughbooks purchased in the EEA and Switzerland and Turkey.

Panasonic (or its authorised Service Provider) target to repair your equipment within 48 hours from its receipt in our service centre.

Additional charges may apply for shipment to countries outside of the European Union. Panasonic will use all reasonable endeavours to ensure this service.

This warranty only covers failures due to defects in materials or workmanship which occur during normal use for the applicable Service Agreement Period listed below. In the event that any product (or part thereof) is replaced, Panasonic shall transfer ownership of the replacement product (or part) to the customer and the customer shall transfer ownership of the replaced product (or part) to Panasonic.

Service Agreement Period - from original date of purchase

- Toughbooks (and every accessory included in the original packaging except the battery) - 3 years
- Accessories included in the original package - 3 years
- Additional peripherals manufactured by Panasonic (including media bay devices such as CD-Rom drives) - 1 year
- Batteries - 6 months. Panasonic Warranty covers the battery for six months. A battery is considered good if it maintains 50% of its charge capacity during the warranty period. If a battery is returned under this contract and testing determines that it has charge capacity greater than 50%, the battery will be returned with an invoice for the retail purchase price of a new battery.

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.

Limits and Exclusions:

This warranty does not cover and shall be void for:

- Broken or cracked LCD screen.
- Defective pixel in notebook displays and LCD screens within 0.002%
- Damage that is attributable to fire, theft or acts of God.
- Damage caused by environmental influences (electrical storms, magnetic fields etc.).
- Damage which has not been caused during normal operation
- Repair of damage that is cosmetic only or does not affect product functionality such as wear and tear, scratches and dents.
- Failures caused by products not supplied by Panasonic.
- Failures resulting from alteration, accidental damage, casualty, misuse, abuse or neglect.
- Introduction of liquid or other foreign matter into the unit.
- Improper installation, operation or maintenance.
- Improper connections with peripherals.
- Maladjustment of consumer controls such as function settings.
- Modification or service by anyone other than Panasonic or its approved Service Providers.
- Products used as short term rental or leased equipment.
- Products whose serial number has been removed making the unit warranty condition impossible to clearly determine.

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.

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There are no other express warranties except as listed above.

We strongly recommend that customers backup their data before sending back their unit to an Authorised Service Provider.

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 satisfactory quality and fitness for a particular purpose are limited to the applicable warranty period set forth above. Panasonic shall not be liable for any indirect, special or consequential loss or damage (including without limitation any loss of profits) arising from the use of this product or for any breach of this warranty.

This limited warranty gives you specific legal rights, and you may have other rights that vary from country to country. You must consult the applicable country laws for a full determination of your rights. This limited warranty is in addition to, and does not affect any rights arising out of any contract of sale or by statute.

Data Storage Media

Data Storage Media is the media on which the Operating System, drivers and programs originally installed by Panasonic on the main unit are stored. This media is originally provided with the unit.

Panasonic warrants to you only that the disc(s) or other media on which the Programs are furnished will be free from defects in material 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 of any defective disk or other media which is returned to Panasonic's authorized Service Centre, together with a copy of the purchase receipt, within the aforesaid warranty period.

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 the environment conditions other than those specified by Panasonic by alteration, accident, misuse, abuse, neglect, mishandling, misapplication, installation, maladjustment of consumer controls, improper maintenance, modification or 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.

Pre-installed software

Pre-installed software means the software shipped pre-loaded by Panasonic, not that loaded by any third party or selling agent.

Panasonic and its suppliers makes no warranty, either express, implied or statutory, with respect to software provided with the Product and licensed to Purchaser, its quality, performance, merchantability, or fitness for a particular purpose. Panasonic does not warrant that the functions contained in the software will be uninterrupted or error free. 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, or services, downtime costs, or claims of any party dealing with such damages.

Some countries 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 that vary from country to country. You must consult applicable country laws for a full determination of your rights.

Standard Limited Warranty

Contacts

Address

Panasonic Computer Products Europe
Service Centre Building B4,
Wyncliffe Road, Pentwyn Industrial Estate, Cardiff,
United Kingdom
CF23 7XB

Web page

<http://www.toughbook.eu/>

Helpdesk

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Payments

toughbookservicepayments.cardiff@eu.panasonic.com



As an ENERGY STAR® Partner, Panasonic Corporation has determined that this product meets ENERGY STAR® guidelines for energy efficiency. By enabling available power management settings, Panasonic computers enter a low-power sleep mode after a period of inactivity, saving the user energy.

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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Importer's name & address pursuant to the EU GPSD (General Product Safety Directive) 2001/95/EC Art.5
Panasonic Computer Products Europe, Panasonic Marketing Europe GmbH
Hagenauer Straße 43
65203 Wiesbaden
Germany

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