



OPERATING INSTRUCTIONS

Personal Computer

Model No. **CF-LX3** series

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Read Me First

Getting Started

Useful Information

Troubleshooting

Appendix

Safety Precautions

To reduce the risk of injury, loss of life, electric shock, fire, malfunction, and damage to equipment or property, always observe the following safety precautions.

Explanation of symbol word panels

The following symbol word panels are used to classify and describe the level of hazard, injury, and property damage caused when the denotation is disregarded and improper use is performed.

DANGER

Denotes a potential hazard that will result in serious injury or death.

WARNING

Denotes a potential hazard that could result in serious injury or death.

CAUTION

Denotes a hazard that could result in minor injury.

NOTICE

Denotes a hazard that could result in property damage.

The following symbols are used to classify and describe the type of instructions to be observed.

	This symbol is used to alert users to a specific operating procedure that must not be performed.
	This symbol is used to alert users to a specific operating procedure that must be followed in order to operate the unit safely.



DANGER

Precautions on the battery pack

Electrolyte leakage, generation of heat, ignition or rupture of the Battery Pack may result.



- **Do Not Throw the Battery Pack into a Fire or Expose It to Excessive Heat**
- **Do Not Insert Sharp Objects Into the Battery Pack, Disassemble, or Modify It**
- **Do Not Short the Positive (+) and Negative (-) Contacts**
 - ⇒ Do not place the battery pack together with articles such as necklaces or hairpins when carrying or storing.
- **Do Not Apply Shocks to the Product by Dropping It, Applying Strong Pressure to It, etc.**
 - ⇒ If this product is subjected to a strong impact, damaged or deformed, stop using it immediately.
- **Do Not Charge the Battery Using Methods Other Than Those Specified**
- **Do Not Use the Battery Pack with Any Other Product**
 - The battery pack is rechargeable and was intended for the specified product.
- **Do Not Use This Product with a Battery Pack Other Than the One Specified**
 - ⇒ Use only the specified battery pack with your product.



- **When the Battery Pack Has Deteriorated, Replace It With a New One**
 - ⇒ Do not continue to use a damaged battery pack.
- **Avoid Extreme Heat (Near the Fire, in Direct Sunlight, for Example)**



WARNING

Fire or electric shock may result.



- **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.
 - ⇒ Do not continue to use a damaged AC cord, AC plug and AC adaptor.
 - Contact your technical support office for repair.
- **Do Not Connect the AC Adaptor to a Power Source Other Than a Standard Household AC Outlet**
 - ⇒ 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 Pull or Insert the AC Plug If Your Hands Are Wet**
- **Do Not Disassemble This Product**
- **Do Not Touch This Product In a Thunderstorm If Connected with the AC Cable or Any Other Cables**
- **Do Not Place Containers of Liquid or Metal Objects on Top of This Product**
 - ⇒ If foreign matter has found its way inside, immediately turn the power off and unplug the AC plug and remove the battery pack. Then contact your technical support office.



- **If a Malfunction or Trouble Occurs, Immediately Stop Use**
If the Following 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
 - ⇒ After the above procedure, contact your technical support office for repair.
- **Insert the AC Plug Completely**
 - ⇒ Do not use a damaged plug or loose AC outlet.
- **Clean Dust and Other Debris of the AC Plug Regularly**
 - If dust or other debris accumulates on the plug, humidity, etc. may cause a defect in the insulation.

Safety Precautions

WARNING

Low-temperature burns may result.



- **Do Not Use This Product in Close Contact With Your Body For a Long Period of Time**
 - ⇒ Do not use this product with exposing the skin to the heat source of this product or AC adaptor for a long period of time.
- **Do Not Expose Yourself or Other Persons to the Hot Wind from the Ventilation Hole (Exhaust) For a Long Period of Time.**
 - Depending on the direction of the computer or the way you hold the computer, your hands and body will be more exposed to the hot wind.
 - Covering the ventilation hole (exhaust) with your hand or other object can cause heat to build up inside, possibly resulting in burns.
- **Do Not Keep Touching The Surface of The AC Adaptor While Using/Charging**
 - Burns may result.

Detrimental health effects on your body may result.



- **Do Not Turn the Volume Up To Loud When Using Headphones**
 - Listening at high volumes that overstimulate the ear for long periods of time may result in loss of hearing.

CAUTION

Fire or electric shock may result.



- **Do Not Move This Product While the AC Plug Is Connected**
 - ⇒ If the AC cord is damaged, unplug the AC plug immediately.
- **Do Not Connect a Telephone Line, or a Network Cable Other Than the One Specified, Into the LAN Port**
 - ⇒ Do not connect to a network such as the ones listed below.
 - 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.)
- **Do Not Subject the AC Adaptor To Any Strong Impact**
 - ⇒ Do not continue to use the AC adaptor after a strong impact such as being dropped.
 - ⇒ Contact your technical support office for repair.
- **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.
- **Do Not Keep This Product Wherever There is a Lot of Water, Moisture, Steam, Dust, Oily Vapors, etc.**
- **Do Not Block the Ventilation Hole (Exhaust)**
 - ⇒ Do not use this product wrapped in cloth or on top of bedding or a blanket.



CAUTION

Fire or electric shock may result.



- **Hold the Plug When Unplugging the AC Plug**
- **Use Only the Specified AC Adaptor With This Product**
 - ⇒ Do not use an AC adaptor other than the one supplied (supplied with the unit or one sold separately as an accessory).

This product may fall over or drop, resulting in an injury.



- **Do Not Place This Product on Unstable Surfaces**
- **Avoid Stacking**

Detrimental health effects on your body may result.



- <Only for model with CD/DVD drive>
- **Do Not Look Into the CD/DVD Drive**
 - Looking directly at the internal laser light source may result in damage to eyesight.
 - ⇒ Contact your technical support office for check, maintenance and repair.
- <Only for model with CD/DVD drive>
- **Do Not Use Discs That Are Cracked or Deformed**
 - Because the discs rotate at high speeds, damaged discs may break apart causing injury.
 - ⇒ Discs that are not round and discs that have been repaired using adhesives are similarly dangerous, and so should not be used.



- **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.

NOTICE

- 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.
- 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.

Safety Precautions

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.)
- If the temperature is low, the operating time is shortened. 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.

THIS PRODUCT IS NOT INTENDED FOR USE AS, OR AS PART OF, NUCLEAR EQUIPMENT/SYSTEMS, AIR TRAFFIC CONTROL EQUIPMENT/SYSTEMS, AIRCRAFT COCKPIT EQUIPMENT/SYSTEMS, MEDICAL DEVICES OR ACCESSORIES^{*1}, 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} 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 that exceed the specifications of our COTS (Commercial-Off-The-Shelf) products.

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

This computer has been designed so as to minimize shock to the LCD and hard disk drive, but no warranty is provided against such trouble. Therefore, as a precision instrument, be extremely careful in the handling.

Regulatory Information

Information to the User

<Only for model with wireless LAN/Bluetooth>

This product and your Health

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

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

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

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

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

Regulatory Information

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

26-M-1

Regulations for Wireless LAN / Bluetooth

Country / Region	802.11a	802.11b/g Bluetooth
Austria, Belgium, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Latvia, Lithuania, Macedonia, Malta, Netherlands, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Kingdom	Restricted to indoor use.	
France	Restricted to indoor use.	Restricted to indoor use.
Italy	Restricted to indoor use. General authorization required if used outside.	General authorization required if used outside of own premises.
Norway	Restricted to indoor use.	Prohibited within a 20 km radius from the centre of Ny-Ålesund.

Regulatory Information

- The latest version of “ERC RECOMMENDATION 70-03” by European Radiocommunications Committee and the regulation in Turkey.
- Use only the antenna specified by Panasonic.
- Confirm the latest information to the radio regulation authorities.

40-E-1

Lithium Battery

Lithium Battery!

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

Warning!

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

15-E-1

CD/DVD Drive Caution

<Only for model with the following label on the computer>

CAUTION!

THIS PRODUCT UTILIZES A LASER.

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

DO NOT OPEN COVERS AND DO NOT REPAIR YOURSELF.

REFER SERVICING TO QUALIFIED PERSONNEL.

12-E-1



Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste. For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directives 2002/96/EC and 2006/66/EC. By disposing of these products and batteries correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. For more information about collection and recycling of old products and batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items. Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

[Information on Disposal in other Countries outside the European Union]

These symbols are only valid in the European Union. If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.



Note for the battery symbol (bottom two symbol examples):

This symbol might be used in combination with a chemical symbol. In this case it complies with the requirement set by the Directive for the chemical involved.

53-E-1

Safety Precautions

CAUTION:

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

58-E-1

Interface Cable

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

11-E-1

For Europe



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.ptc.panasonic.eu>

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

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 HR HU IE IS IT LT LU
LV MT NL NO PL PT RO SE SI SK TR

18-25-E-0

This equipment requires minimum 20 cm spacing from all person's body (excluding extremities of hands, wrist and feet) in directions of the back and both sides of the LCD display during wireless modes of operation.

60-E-1

Regulatory Information

For UK

For your safety, please read the following text carefully.

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

Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 3 ampere and that it is approved by ASTA or BSI to BS1362.

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 dealer.

If the fitted molded 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.

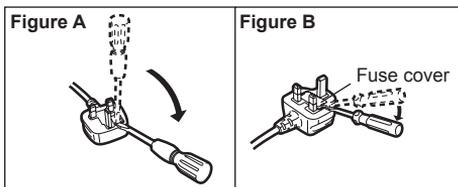
There is a danger of severe electrical shock if the cut off plug is inserted into any 13-ampere socket.

How to replace the fuse

The location of the fuse differs according to the type of AC mains plug (figures A and B).

Confirm the AC mains plug fitted and follow the instructions below. Illustrations may differ from actual AC mains plug.

Open the fuse cover with a screwdriver and replace the fuse and close or attach the fuse cover.



8-E-1

For India

Declaration of Conformity with the requirements of the e-waste (Management and Handling) Rules, 2011. (adopted by Notification S.O.1035(E) of Ministry of Environment and Forests)

The Product is in conformity with the requirements of Rule 13 of the e-waste Rules.

The content of hazardous substance with the exemption of the applications listed in SCHEDULE II of the e-waste Rules:

1. Lead (Pb) - not over 0.1% by weight;
2. Cadmium (Cd) - not over 0.01% by weight;
3. Mercury (Hg) - not over 0.1% by weight;
4. Hexavalent chromium (Cr6+) - not over 0.1% by weight;
5. Polybrominated biphenyls (PBBs) - not over 0.1% by weight;
6. Polybrominated diphenyl ethers (PBDEs) - not over 0.1% by weight.



For the purpose of recycling to facilitate effective utilization of resources, please return this product to a nearby authorized collection center, registered dismantler or recycler, or Panasonic service center when disposing of this product.

Please see the Panasonic website for further information on collection centers, etc.

<http://www.panasonic.com/in/corporate/sustainability/panasonic-india-i-recycle-program.html>

68-M-1

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 8.1 indicates Windows® 8.1 Update Operating System.

Windows 7 indicates Windows® 7 Operating System.

■ Terms and illustrations in these instructions

CAUTION :	Conditions that may result in minor or moderate injury.
NOTE :	Useful and helpful information.
Enter :	Press [Enter] key.
Fn + F5 :	Press and hold [Fn] key, and then press [F5] key.
Windows 8.1 Display “Charm”:	Align the cursor to the top right (or bottom right) corner of the screen to display Charm menu. Alternatively: Click toward the center of the screen from the right edge.
 -  :	Click  (Settings) and then click  (Power).
Windows 7  (Start) - [All Programs] :	Click  (Start), and then click [All Programs].
 :	Page in these Operating Instructions or in the Reference Manual.
 :	Reference to the on-screen manuals.

- Some illustrations are simplified to help your understanding and may look different from the actual unit.
- If you do not log on as an administrator, you cannot use some functions or cannot display some screens.
- Refer for the latest information about optional products to the catalogs, etc.
- In these instructions, the names and terms are referred as follows.
 - “Windows® 8.1 Pro Update 64-bit” as “Windows” or “Windows 8.1”
 - “Windows® 7 Professional 32-bit Service Pack 1” and “Windows® 7 Professional 64-bit Service Pack 1” as “Windows” or “Windows 7”
 - DVD MULTI drive as “CD/DVD drive”
 - Circular media including DVD-ROM and CD-ROM as “discs”
- For models with the flash memory drive, read the terms “hard disk” and “hard disk drive” as “flash memory drive”.
- **Windows 8.1**
Screen messages are explained in [English (United States)].
(Depending on the language preference, some screen messages in these instructions are different from the actual screen messages. For example, [Flight mode] may be displayed instead of [Airplane mode] in some language preference.)

■ 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.

Introduction

■ Trademarks

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

Intel, Core, Centrino and PROSet are either registered trademarks or trademarks of Intel Corporation.

SDXC Logo is a trademark of SD-3C, LLC.



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Bluetooth[®] is a registered trademark owned by Bluetooth SIG, Inc., U.S.A. and licensed to Panasonic Corporation.

HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC in the United States and other countries.

Roxio Creator is a trademark or registered trademark of Corel Corporation in the United States and/or other countries.

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

■ On-screen Manual

For further information about the computer, you can refer to the on-screen manual.

● Reference Manual

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

● Important Battery Tips

The Important Battery Tips will provide you with the battery information so that you can use the battery pack in the optimum condition to obtain longer operation time.

To access the on-screen manuals, follow the steps below.

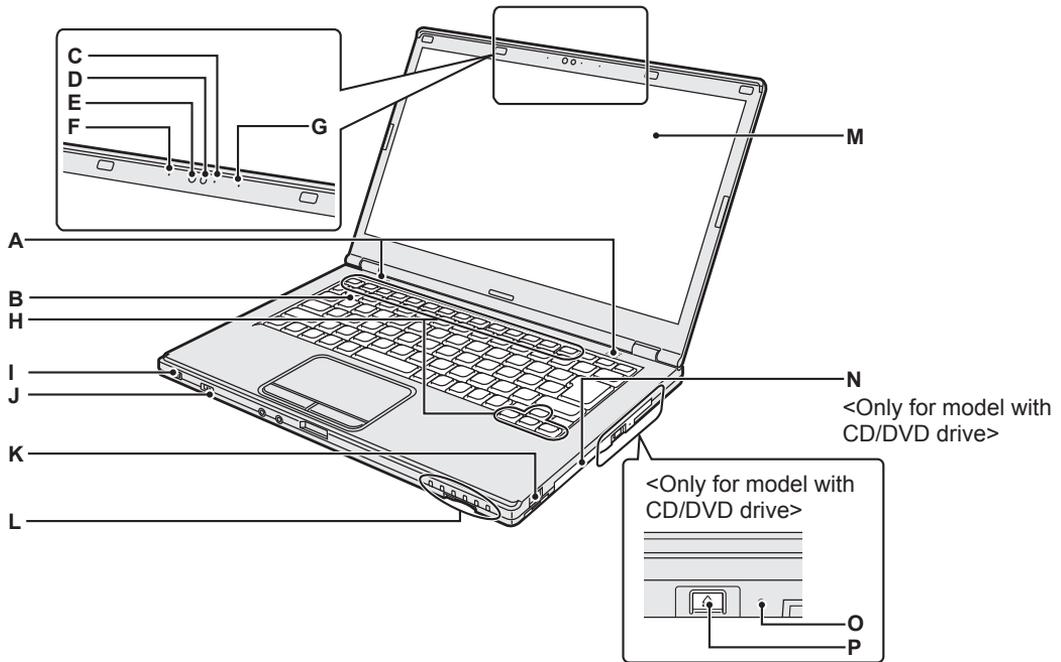
Windows 8.1

On the Start screen, click the [Manual Selector] tile, and select the on-screen manual.

Windows 7

Double-click [Manual Selector] on the desktop screen, and select the on-screen manual.

Description of Parts



A: Speaker

→ Reference Manual “Key Combinations”

B: Keyboard

C: Camera indicator

Lights when the built-in camera is operating.

D: Camera

→ Reference Manual “Camera”

E: Ambient light sensor

The ambient light sensor is equipped with an automatic brightness adjustment function that adjusts the display screen.

F: Microphone

Inputs audio.

G: Microphone

Inputs audio.

H: Function key

→ Reference Manual “Key Combinations”

I: Power switch

Power status indicator

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

J: Wireless switch

→ Reference Manual “Disabling/Enabling Wireless Communication”

→ Reference Manual “Wireless LAN”

→ Reference Manual “Bluetooth”

K: USB 2.0 port

→ Reference Manual “USB Devices”

L: LED indicator

Battery status

→ Reference Manual “Battery Power”

Caps Lock

Numeric key (NumLk)

Scroll lock (ScrLk)

Drive status

SD Memory Card status

(Blinking: During access)

→ Reference Manual “SD Memory Card”

M: LCD

N: CD/DVD drive

<Only for model with CD/DVD drive>

→ Reference Manual “CD/DVD Drive”

O: Emergency hole

<Only for model with CD/DVD drive>

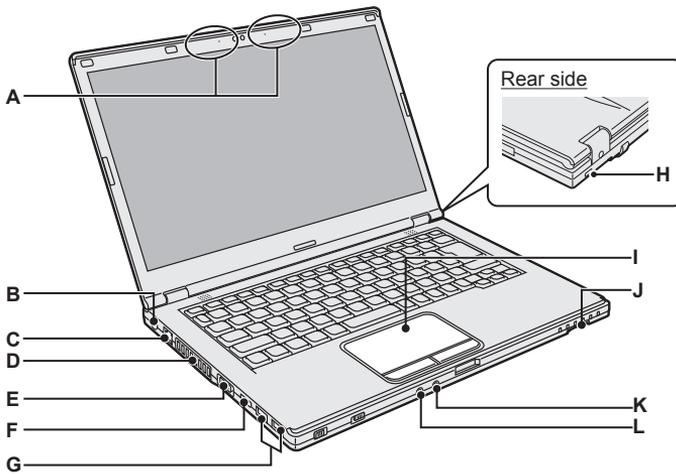
→ Reference Manual “CD/DVD Drive”

P: Eject button

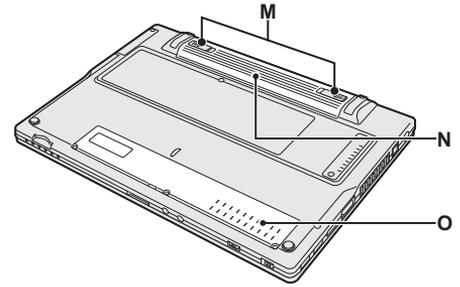
<Only for model with CD/DVD drive>

To open the CD/DVD drive tray, press this button after Windows has started up.

Description of Parts



Bottom



A: Wireless LAN antenna / Bluetooth antenna

- *Reference Manual* “Wireless LAN”
- *Reference Manual* “Bluetooth”

B: DC-IN jack

C: LAN port

- *Reference Manual* “LAN”

D: Ventilation hole (Exhaust)

E: VGA port

- *Reference Manual* “External Display”

F: HDMI port

- *Reference Manual* “External Display”

G: USB 3.0 port

USB 3.0 port (with continuous charging function)

- *Reference Manual* “USB Devices”

H: Security lock

A Kensington cable can be connected. For further information, read the manual that comes with the cable. The security lock and cable is a theft prevention device. Panasonic Corporation will bear no responsibility in the event of theft.

I: Touch pad

- *Reference Manual* “Using the Touch Pad”

J: SD Memory Card slot

- *Reference Manual* “SD Memory Card”

K: Microphone jack

A condenser microphone can be used. If other types of microphones are used, audio input may not possible, or malfunctions may occur as a result.

L: Headphone jack

You can connect headphones or amplified speakers.

When they are connected, audio from the internal speaker is not heard.

M: Battery latch

Automatically locked when the battery pack is correctly secured. To unlock, slide the latches to the unlocked position

N: Battery pack

- page 15

O: RAM module slot

- *Reference Manual* “RAM Module”

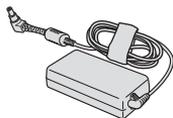
First-time Operation

■ Preparation

① Check and identify the supplied accessories.

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

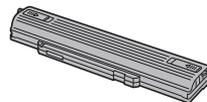
- **AC Adaptor** 1 • **AC Cord** 1 • **Battery Pack** 1



Model No: CF-AA6413C



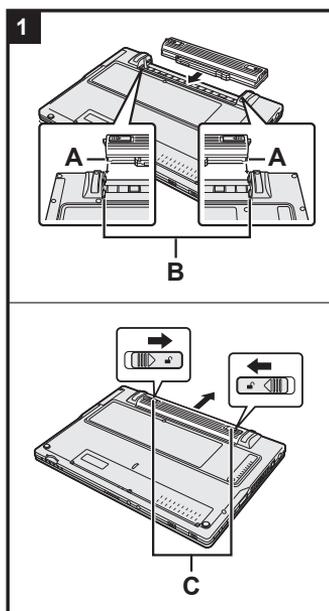
The type of AC cord supplied will vary depending on the model.



Model No: CF-VZSU90E

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

② Read the LIMITED USE LICENSE AGREEMENT before breaking the seal on the computer's packaging (→ page 39).



1 Insert the battery pack.

- ① Turn the computer over.
- ② Slide the battery pack in parallel with the arrow direction.
- ③ Attach the battery pack so that the left and right dents (A) on the battery pack match the projections (B) of the computer.

■ To remove the battery pack

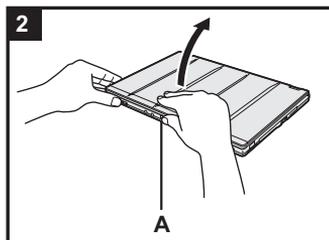
While sliding the left and right latches (C) to the unlocked position , push out the battery pack in parallel with the computer.

CAUTION

- Make sure the battery pack is securely locked. If not, 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.

NOTE

- Note that the computer consumes electricity even when the computer power is off. For the period of time the fully charged battery will fully discharge, refer to "Battery duration" (→ page 20).
- 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.



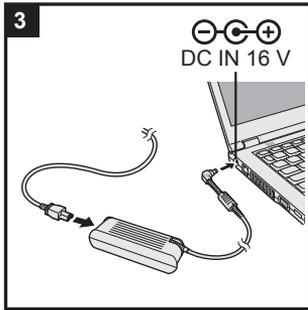
2 Open the display.

Hold the side of the computer with either of your hands and then hold and lift the (A) part to open the display.

CAUTION

- Do not open the display wider than necessary (180° or more), and do not apply excessive pressure to the LCD. Do not open or close the display holding the edge of the LCD segment.
- If the computer lifts when you are opening the display, hold the computer down at its side, for example.

First-time Operation



3 Connect your computer to a power outlet.

The battery charging starts automatically.

CAUTION

- Do not disconnect the AC adaptor and do not switch the wireless switch to on until the first-time operation procedure is completed.
- When using the computer for the first time, do not connect any peripheral device (including wired LAN cable) except the battery pack and AC adaptor.
- **Handling the AC adaptor**
Problems such as sudden voltage drops may arise during periods of thunder and lightning. Since this could adversely affect your computer, an uninterruptible power source (UPS) is highly recommended unless running from the battery pack alone.

4 Turn on the computer.

Slide and hold the power switch  (→ page 13) until the power status indicator (→ page 13) lights.

CAUTION

- Do not slide the power switch repeatedly or do not hold the power switch for four seconds or longer.
- Any changes from the default setting of the Setup Utility must not be made until the First-time Operation is completed.

5 <For MUI OS model>

Windows 7 Select language and OS (32-bit or 64-bit).

CAUTION

Windows 7

- Carefully choose your language because you cannot change it later. If you set a wrong language, you need to reinstall Windows.

Windows 7

- ① Select language and OS (32bit or 64bit) on “Select Language” screen and click [OK].
The language setting will start by clicking [OK] on the confirmation screen.
You can return to the “Select Language” screen by clicking [CANCEL].
The language and OS setting will be completed in about 15 minutes.
- ② When termination screen is displayed, click [OK] to turn off the computer.

6 Setup Windows.

Windows 8.1

- ① Select language and click [Next].

Windows 7

- ① Turn on the computer.

Follow the on-screen instructions.

- The computer restarts several times. Do not touch the keyboard or touch pad, and wait until the drive indicator  has turned off.
- 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 touch pad and clicking to move the cursor and to click an item.
- Setup of Windows will take approximately **Windows 8.1** 5 minutes / **Windows 7** 20 minutes.
Go to the next step, confirming each message on the display.
- **Windows 7** Follow the steps below.
 - ① When “Enable sensors” is displayed, click [Enable this sensor].
 - ② When the [User Account Control] screen is displayed, click [Yes].

The computer restarts automatically, and the setting is enabled.
- You can set the Wireless Network after the setup of Windows is complete.
 - **Windows 8.1** If “Get online” is displayed, select “Skip this step”.
 - **Windows 7** “Join a wireless network” screen may not appear.
 - **Windows 8.1** Verify the time zone, date and time (→ page 33).

CAUTION

- Wait until the drive indicator  has turned off.
- 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.
- Do not use the following words and characters for user name: CON, PRN, AUX, CLOCK\$, NUL, COM1 to COM9, LPT1 to LPT9, @, &, space. 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 **Windows 8.1** sign in / **Windows 7** log on to Windows (→ page 35).
- 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.

7 Create the recovery disc.

A recovery disc allows you to install OS and restore its factory default condition, in case, for example, the recovery partition of the HDD is damaged. We recommend creating a recovery disc before you begin using the computer.

Refer to →  *Reference Manual* “Recovery Disc Creation Utility” about creating the disc.

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]. Then follow the on-screen instructions.

(→  *Reference Manual* “Troubleshooting (Advanced)” - “Checking the Computer’s Usage Status”)

● **Windows 8.1** <For MUI OS model>

In the default settings, a shortcut icon for Korean language is on the Desktop screen. You may delete the icon if not necessary.

● **Windows 7** <For MUI OS model>

If the recovery partition is deleted, you cannot create Recovery Disc(s).

■ Before using wireless function

① Slide the wireless switch to ON.

Windows 8.1

② Display “Charm”, and click  - [Change PC Settings] - [Network] - [Airplane mode]. Set [Airplane mode] to [Off], and then; set [Wi-Fi] in “Wireless device” to [On] (for wireless LAN). set [Bluetooth] in “Wireless device” to [On] (for Bluetooth).

■ To change the partition structure

You can shrink a part of an existing partition to create unallocated disk space, from which you can create a new partition.

This computer has a single partition as default setting.

① **Windows 8.1**

Perform either of the following procedures.

● For the desktop screen:

1. Right-click  at the bottom left corner of the Desktop screen.
2. Click [Computer Management].

● For the Start screen:

1. Click  on the Start screen.
2. Right-click [PC].
3. Click [Manage] on the app bar.

Windows 7

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 OS related partitions.] in installing OS (→ page 28),

Windows 8.1 <For localized OS model> 70 GB / <For MUI OS model> 100 GB

Windows 7 60 GB 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.

First-time Operation

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.

■ Battery duration

In sleep	Approx. 7 days (Approx. 5 days with Wake Up from wired LAN function activated)
In hibernation	Approx. 50 days (Approx. 20 days with Wake Up from wired LAN function activated)
When power is off	Approx. 50 days (Approx. 20 days with Power On by LAN function activated)

The above table shows the battery duration while the USB port continuous charging function is not used.

The battery duration will slightly be longer if a LAN cable is not connected to the computer, even when Wake Up from wired LAN function is activated.

■ **Windows 8.1** To select language

To select a language other than the one you have selected during the first-time operation, follow the steps below.

- ① Open the Control Panel.
 1. Perform either of the following procedures.
 - For the desktop screen:
Right-click  at the bottom left corner of the Desktop screen.
 - For the Start screen:
Click  on the Start screen.
 2. Click [Control Panel].
- ② Click [Clock, Language, and Region] - [Language] - [Add a language].
- ③ Select a language, and then click [Add].
Depending on the region, two or more languages are selectable. Click [Open] and select the desired language, and then click [Add].
- ④ Click [Option] for the language you want to use.
- ⑤ Click [Make this the primary language].
- ⑥ Click [Log off now].
- ⑦ Sign in to the Windows.

Turning On / Turning Off

Turning On

Slide and hold the power switch (➔ page 13) until the power status indicator (➔ page 13) lights.

NOTE

- Do not slide the power switch repeatedly.
- The computer will forcibly be turned off if you slide and hold the power switch for four seconds or longer.
- Once you turn off the computer, wait for ten seconds or more before you turn on the computer again.
- Do not perform the following operation until the hard disk drive indicator  turns off.
 - Connecting or disconnecting the AC adaptor
 - Sliding the power switch
 - Touching the keyboard, touch pad, tablet buttons or external mouse
 - Closing the display
 - Turn on/off the wireless switch

Turning Off

① Shut down the computer.

Windows 8.1

- For the desktop screen:
 1. Right-click  at the bottom left corner of the Desktop screen.
 2. Click [Shut down or sign out] - [Shut down].
- For the Start screen and desktop screen:
 1. Display “Charm” and touch .
 2. Click [Power] - [Shut down].

Windows 7

Click  (Start) - [Shutdown].

② When the computer is in the laptop mode, close the display after the power indicator goes off completely.

NOTE

- **Windows 8.1**
To turn off the computer completely, proceed as follows.
 - ① Display “Charm”, and click  - [Change PC settings] - [Update and recovery] - [Recovery].
 - ② Click [Restart now] under “Advanced startup”.
 - ③ Click [Turn off your PC].

When Starting Up/Shutting Down

Do not do the following

- Connecting or disconnecting the AC adaptor
- Sliding the power switch
- Touching the keyboard, touch pad, screen or external mouse
- Closing the display
- Turn on/off the wireless switch

NOTE

- To conserve power, the following power saving methods are set at the time of purchase.
 - The screen automatically turns off after :
 - 10 minutes (when AC adaptor is connected) of inactivity
 - 5 minutes (when operating on battery power) of inactivity
 - The computer automatically enters sleep^{*1} after :
 - 20 minutes (when AC adaptor is connected) of inactivity
 - 15 minutes (when operating on battery power) of inactivity

^{*1} Refer to  *Reference Manual* “Sleep or Hibernation Functions” about resuming from sleep.

Handling and Maintenance

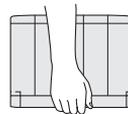
Operation Environment

- Place the computer on a flat stable surface not subject to shock, vibration, and danger of dropping. Do not place the computer upright or turn it over. If the computer is exposed to an extremely strong impact, it may become damaged.
 - Temperature: Operation: 5 °C to 35 °C {41 °F to 95 °F}
Storage: -20 °C to 60 °C {-4 °F to 140 °F}
 - Humidity: Operation: 30% to 80% RH (No condensation)
Storage: 30% to 90% RH (No condensation)
- Even within the above temperature/humidity ranges, operation for a long time in extreme environments, smoking nearby, or operation in places where oil is used or where there is a lot of dust will result in the product deterioration and will shorten the product life.
- Be sure to use the computer in an environment with sufficient heat ventilation.
 - Avoid using the computer on a highly heat retentive surfaces (e.g., rubber pads and blankets). If possible, use the computer on surfaces that can dissipate heat, such as a steel desk.
 - Do not cover the computer with towels, keyboard covers, etc., as this prevents heat dissipation.
 - When using the computer, always keep the display open. (Note, however, that closing the display while the computer is in use does not cause generation of heat, ignition, or other malfunctions.)
 - 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 and equipped with a drip-proof keyboard, but no warranty is provided against any trouble caused by shock. Be extremely careful when handling the computer.

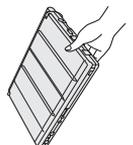
- Always place your computer on a level, stable surface.
- Avoid physical shock and pressure.
- When carrying the computer:
 - Turn off the computer.
 - Remove all external devices, cables, and other protruding objects.
 - Remove a disk in the CD/DVD drive.
 - Do not drop or hit the computer against solid objects.
 - Do not leave the display open.
 - Do not pick up or hold the computer by the display part.
 - Do not put anything (e.g., a piece of paper) between the display and keyboard.
 - Use a carrying case that provides adequate cushioning and protection. Do not pack your computer in a tightly-packed suitcase or bag. Placing your computer under physical stress may damage or deform your computer.
- When flying on an airplane:
 - Carry the computer with you, and never put it in checked baggage.
 - Obey the airline's instructions when using the computer on the airplane.
- When carrying a spare battery, put it in a plastic bag to protect its terminals.



Correct

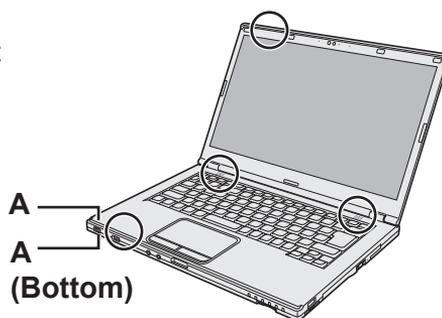


Incorrect



Incorrect

- This computer contains a magnet and magnetic products at the locations circled in the illustration at the right. Avoid leaving metallic object or magnetic media in contact with these areas.
- Do not place an object containing magnetic power to the (A) portions. Doing so may cause the computer to detect mistakenly that the display is closed, and as a result, the display may go out and the computer may enter sleep.
- The touch pad is designed to be used by finger tip. Do not place any object on its surface and do not press down strongly with sharp-pointed or hard objects that may leave marks (e.g., nails, pencils and ball point pens).
- Avoid any harmful substances such as oil from getting into the touch pad.
The cursor may not work correctly.
- If the computer is being carried in a soft bag with the battery pack removed, avoid undue pressure on the body of the computer in a crowded place, etc., as this may result in damage to the LCD.



■ When the battery indicator does not light on

The battery indicator may not light on even if the AC adaptor and the battery pack are correctly connected to the computer, due to the following reasons.

- The AC adaptor's protection function may be working. In this case, pull out the AC cord and wait for more than 1 minute before reconnecting the AC cord.

■ If the computer becomes warm during usage

- Click on the notification area, click , and click [Panasonic Power management (Better Heat Dispersion)].
 - When changing to [Panasonic Power management (Better Heat Dispersion)], the following settings will change.
 - Change to [High Speed] from [Standard] in [Fan control mode].
Rotation of the cooling fan will become faster and the computer can be cooled down. Note that the battery operating time will be shorter.
 - Switch the screen saver to [Prohibited].
 - Other setting changes such as the lowering of the internal LCD brightness.
 - When you do not frequently use CPU or the rotation noise of the fan bothers you, set [Standard] or [Low Speed] in [Fan control mode].
- If you are not using a wireless LAN, turn the wireless LAN off.
- Clean the inside of the dust cover once a month. (→ page 25)

■ When using peripheral devices

Follow these instructions and the "Reference Manual" to avoid any damage to the devices. Carefully read the instruction manuals of the peripheral devices.

- Use the peripheral devices conforming to the computer's specifications.
- Connect to the connectors in the correct direction.
- If it is hard to insert, do not try forcibly but check the connector's shape, direction, alignment of pins, etc.
- If screws are included, fasten them securely.
- Remove the cables when you carry the computer. Do not pull the cables forcibly.

Handling and Maintenance

■ Preventing your computer from unauthorized use via wireless LAN/Bluetooth

- Before using wireless LAN/Bluetooth, make the appropriate security settings such as data encryption.

■ Battery Recalibration

- The battery recalibration may take a long time due to the large battery capacity. This is not a malfunction. (→ page 43 "Remaining battery indicator recalibration time".)

Maintenance

If drops of water or other stains get on the surface of the LCD panel, wipe them off immediately. Failure to do so may result in staining.

To clean the LCD panel

Wipe lightly with a gauze or other dry, soft cloth.

To clean the touch pad

Wipe lightly with a gauze or other dry, soft cloth.

To clean areas other than the LCD panel and touch pad

Wet a soft cloth with water or a diluted kitchen cleanser (neutral), wring the cloth out thoroughly, and wipe the dirty area gently. Using a detergent other than a neutral kitchen cleanser (e.g., a weak alkali cleanser) may adversely affect painted surfaces.

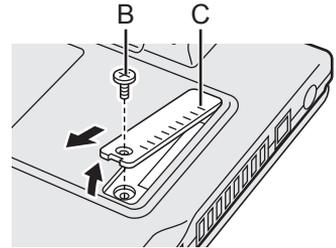
CAUTION

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

To clean the inside of the dust cover

Clean the inside of the dust cover once a month.

- ① Turn off the computer, and disconnect the AC adaptor.
- ② Close the display, and turn the computer over.
- ③ Remove the battery pack.
- ④ Remove the screw (B), and remove the dust cover (C) in the direction of the arrow.
- ⑤ Clean the inside of the dust cover.
- ⑥ After cleaning, reset the dust cover (C), and secure the screw (B).



CAUTION

- If dust is piled up inside the dust cover and hard to remove, use an electric cleaner. Be careful not to inhale dust.
- Make sure no water or other liquid spills inside the dust cover, and pay attention not to drop the screw inside the dust cover.

Installing Software

Installing software will return the computer to the default condition. When you install the software, the hard disk data will be erased.

Back up important data to other media or an external hard disk before installation.

CAUTION

- If the recovery partition is deleted, you cannot perform hard disk recovery. To check the Recovery Partition, perform the following methods.

① Windows 8.1

Perform either of the following procedures.

- For the desktop screen:
 1. Right-click  at the bottom left corner of the Desktop screen.
 2. Click [Computer Management].
- For the Start screen:
 1. Click  on the Start screen.
 2. Right-click [PC].
 3. Click [Manage] on the app bar.

Windows 7

Click  (Start) and right-click [Computer], then click [Manage].

- A standard user needs to enter an administrator password.
- ② Click [Disk Management].

■ Remove everything and reinstall Windows

You can reinstall the OS that was pre-installed at the time of purchase (Windows 8.1 or Windows 7).

Preparation

- Remove all peripherals.
- Connect the AC adaptor and do not remove it until installation is complete.

Windows 8.1

1 Perform “Remove everything and reinstall Windows”.

- ① Display “Charm”, and click  - [Change PC settings] - [Update and recovery] - [Recovery].
 - ② Click [Get Started] under “Remove everything and reinstall Windows”.
 - ③ Click [Next].
 - ④ Select the option.
 - Just remove my files
Perform the reinstallation of the Windows in a few moments (Approximately 20 minutes).
 - Fully clean the drive
By fully cleaning, the deleted files can not be recovered easily and the security level will be increased. The processing time will be longer (Approximately 140 minutes).
Follow the on-screen instructions.
After the reinstallation, the computer will restart.
- Do not interrupt installation, for example by turning off the computer or performing other operation.
Otherwise installation may become unavailable as Windows may not start up or the data may be corrupted.

2 Perform the “First-time Operation”, starting from step 6, “Setup Windows” (→ page 17).

NOTE

- The date and time, and the time zone may not be correct. Be sure to set them correctly.

3 Perform Windows Update.

4 Clear TPM.

- ① Perform either of the following procedures.
 - For the desktop screen:
Right-click  at the bottom left corner of the Desktop screen.
 - For the Start screen:
Click  on the Start screen.
- ② Click [Run], input [tpm.msc] and click [OK].
- ③ Click [Clear TPM...] under “Actions” on the right of the “TPM Manager on Local Computer” screen.
- ④ Click [Restart] of the “Manage the TPM security hardware” screen.
The computer will restart.
- ⑤ When “TPM configuration change was requested to ...” is displayed, press **F12**.
- ⑥ Click the Desktop tile, and when “TPM is ready” appears, click [Close].

■ Hard Disk Recovery

CAUTION

- If the recovery partition is deleted, you cannot perform hard disk recovery.

Preparation

- Remove all peripherals.
- Connect the AC adaptor and do not remove it until installation is complete.

Windows 8.1 If reinstallation using the method described in “Remove everything and reinstall Windows” above is not successful, follow the steps below.

1 Start the Setup Utility.

Windows 8.1

- ① Display “Charm”, and click  - [Change PC settings] - [Update and recovery] - [Recovery].
- ② Click [Restart now] under “Advanced startup”.
- ③ Click [Troubleshoot] - [Advanced options] - [UEFI Firmware Settings] - [Restart].

Windows 7

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

- 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.

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

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

3 Check the [UEFI Boot] setting of the Setup Utility.

[UEFI Boot] should be set to as follows.

When Windows 8.1 is used: [Enabled]

When Windows 7 is used: [Disabled]

4 Press **F10**.

At the confirmation message, select [Yes] and press **Enter**.
Computer will restart.

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

The Setup Utility starts up.

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

6 Select the [Exit] menu, then select [Recovery Partition] and press **Enter**.

Installing Software

- 7 **Windows 8.1**
Click [Next] and click [YES].
- Windows 7**
Click [Reinstall Windows] and click [Next].
- 8 **At the License Agreement screen, click [Yes, I agree to the provisions above and wish to continue!] and click [Next].**
- 9 **Click [Next].**
If the option is displayed, select the setting and click [Next].
- [Reinstall Windows to the System Disk to factory default.]
Select this option when you want to install Windows to the factory default. After installation, you can create a new partition. For how to create a new partition, refer to “To change the partition structure” (→ page 19).
 - [Reinstall to the OS related 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 19). You can keep the partition structure.
- ^{*1} This does not appear if Windows cannot be installed to the recovery partition and the area usable by Windows.
- 10 **Windows 7 At the confirmation message, click [YES].**
- 11 **Windows 7**
<For localized OS model>
Select OS (32bit or 64bit) and click [OK].
<For MUI OS model>
Select language and system type (32bit or 64bit) and click [OK].
At the confirmation message, click [OK].
To cancel the recovery procedure, click [CANCEL], and click the  mark that appears at the top right corner of the screen.
- 12 **At the confirmation message, click [YES].**
Installation starts according to the instructions on the screen. (It will take approximately 20 minutes.)
- Do not interrupt installation, for example by turning off the computer or performing other operation.
Otherwise installation may become unavailable as Windows may not start up or the data may be corrupted.
- 13 **When Ending process screen is displayed, click [OK] to turn off the computer.**
- 14 **Turn on the computer.**
- If the password is requested, enter the Supervisor Password.
- 15 **Perform the “First-time Operation”, starting from step 6, “Setup Windows” (→ page 17).**

NOTE

- **Windows 8.1** The date and time, and the time zone may not be correct. Be sure to set them correctly.

- 16 **Start the Setup Utility and change the settings as necessary.**
- 17 **Perform Windows Update.**
- 18 **Windows 8.1 Clear TPM (→ page 27).**

■ Using Recovery Disc

Use the Recovery Disc in the following conditions.

- You have forgotten the administrator password.
- Installation is not complete. The recovery partition in the hard disk (flash memory drive) may be broken.
- The recovery partition is deleted.
- **Windows 7** <Only for Windows 7 downgrade model>
To change OS from Windows 7 to Windows 8.1, or vice versa.

NOTE

- **Windows 7** To change the OS from 32 bit to 64 bit or vice versa, the recovery partition must be used to install the OS. Therefore, the recovery partition must still exist on the hard disk in order to perform this operation.

Preparation

- Prepare the following items:
 - Recovery Disc (→  *Reference Manual* “Recovery Disc Creation Utility”)
 - <Only for model without CD/DVD drive> USB DVD drive (optional) (refer to recent catalogs and other sources for information about the products available)
- Remove all peripherals (except for the USB DVD drive).
- Connect the AC adaptor and do not remove it until installation is complete.

1 <Only for model without CD/DVD drive> Connect the DVD drive to the USB port.

2 Start the Setup Utility.

Windows 8.1

- ① Display “Charm”, and click  - [Change PC settings] - [Update and recovery] - [Recovery].
- ② Click [Restart now] under “Advanced startup”.
- ③ Click [Troubleshoot] - [Advanced options] - [UEFI Firmware Settings] - [Restart].

Windows 7

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

- 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.

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

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

4 Check the [UEFI Boot] setting of the Setup Utility.

[UEFI Boot] should be set to as follows.

When the recovery disc for Windows 8.1 is used: [Enabled]

When the recovery disc for Windows 7 is used: [Disabled]

5 <Only for model with CD/DVD drive> Set [Optical Drive Power] to [On] in the [Main] menu of the Setup Utility.

6 Press **F10**.

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

Computer will restart.

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

The Setup Utility starts up.

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

8 Set the Recovery Disc into the DVD drive.

Installing Software

9 Press F10.

At the confirmation message, select [Yes] and press **Enter**.
Computer will restart.

10 Press F2 or Del while [Panasonic] boot screen is displayed.

The Setup Utility starts up.

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

11 Select the [Exit] menu, then select your DVD drive in [Boot Override] and press Enter.

The computer will restart.

12 Click [Reinstall Windows] and click [Next].

13 **Windows 8.1 At the confirmation message, click [YES].**

14 At the License Agreement screen, click [Yes, I agree to the provisions above and wish to continue!] and click [Next].

15 **Windows 7**

<For MUI OS model>

Click [Next].

If the option is displayed, select the setting and click [Next].

- [Reinstall with HDD recovery partition.]
Standard recovery method.
You can use recovery from Recovery Partition.
- [Reinstall without HDD recovery partition.]
Increase usable HDD size.
You can NOT use recovery from Recovery Partition.
When this option is selected, you can no longer create Recovery Disc(s) after the recovery operation.

CAUTION

- Carefully choose above item because you cannot change it later.
-

16 Click [Next].

If the option is displayed, select the setting and click [Next].

- [Reinstall Windows to the System Disk to factory default.]
Select this option when you want to install Windows to the factory default. After installation, you can create a new partition. For how to create a new partition, refer to “To change the partition structure” (→ page 19).
- [Reinstall to the OS related partitions.]²
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 19).
You can keep the partition structure.

² This does not appear when [Reinstall without HDD recovery partition.] is selected, or if Windows cannot be installed to the recovery partition and the area usable by Windows.

17 At the confirmation message, click [YES].

- 18 **Windows 7**
<For MUI OS model>
Select language and system type (32bit or 64bit) and click [OK].

At the confirmation message, click [OK].

To cancel the recovery procedure, click [CANCEL], and click the  mark that appears at the top right corner of the screen.

Windows 8.1 / Windows 7

Installation starts according to the instructions on the screen. (It will take approximately 30 - 45 minutes. The process may take longer depending on the type of the DVD drive used.)

- Do not interrupt installation, for example by turning off the computer or pressing **Ctrl + Alt + Del**.

Otherwise installation may become unavailable as Windows may not start up or the data may be corrupted.

- 19 **When Ending process screen is displayed, remove the Recovery Disc and then click [OK].**

Follow the on-screen instructions.

Some models may take approximately 40 minutes.

- 20 **Perform the “First-time Operation”, starting from step 6, “Setup Windows” (→ page 17).**

NOTE

- **Windows 8.1** The date and time, and the time zone may not be correct. Be sure to set them correctly.
-

- 21 **Start the Setup Utility and change the settings as necessary.**

- 22 **Perform Windows Update.**

- 23 **Windows 8.1** **Clear TPM (→ page 27).**

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 “Troubleshooting (Advanced)”).

■ Starting Up

<p>The computer does not power on / The power status 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. ● When the CPU temperature is high, the computer may not start up to prevent overheating of the CPU. Wait until the computer cools down, and then turn the power on again. If the computer does not power on even after cooling down, contact your technical support office. ● Pull out the AC cord and wait for more than 1 minute to reconnect the AC cord.
<p>Windows does not start up.</p>	<ul style="list-style-type: none"> ● Remove all peripheral devices (e.g. USB memory). ● If the power status indicator is lit, slide the power switch for four seconds or longer to turn off, then turn on again. ● Windows 7 Using the following procedure, start up in Safe Mode, and check the error details. <ol style="list-style-type: none"> ① Turn on the computer, and when the [Panasonic] boot screen disappears (after entering the password^{*1} if one is set) hold down F8. ② Release your finger when [Windows Advanced Options Menu] is displayed, and with ↑ or ↓, select [Safe Mode], then press Enter. Follow the on-screen instructions. <p>^{*1} Supervisor Password or User Password set with the Setup Utility</p> <ul style="list-style-type: none"> ● Press F9 in the Setup Utility to return the Setup Utility settings (excluding the passwords) to the default values. Start the Setup Utility and make the settings again. ● Check the [UEFI Boot] setting of the Setup Utility. [UEFI Boot] should be set to Windows 8.1 [Enabled] / Windows 7 [Disabled].
<p>After adding or changing the RAM module, the power is turned on but nothing is displayed on the screen.</p>	<ul style="list-style-type: none"> ● Turn off the computer and remove the RAM module, then confirm whether the RAM module has conformed to specification. When the RAM module has conformed to specification, install it again.

■ Starting Up

<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 another account with Administrator authority, log-on with it, then delete the password for the problem account. • If you have a password reset disk, click [Reset password] displayed after the password input error, then follow the on-screen instructions and set a new password. <p>If you cannot do either of the above, you will need to reinstall (➔ page 26) and setup Windows.</p>
<p>“Remove disks or other media. Press any key to restart” or a similar message appears.</p>	<ul style="list-style-type: none"> ● A floppy disk in the drive or USB memory is connected, and it does not contain system startup information. Remove the floppy disk and USB memory, then press any key. ● If a device is connected to the USB port, disconnect the device, or set [USB Port] or [Legacy USB Support] to [Disabled] in the [Advanced] menu of the Setup Utility. ● If the problem persists after removing the disk, it may be a flash memory drive failure. Perform the installation and return the flash memory drive to its condition at the time of purchase. (➔ page 26) If the problem persists even after the reinstallation, contact Panasonic Technical Support.
<p>The date and time are incorrect.</p>	<ul style="list-style-type: none"> ● Make the correct settings. <ol style="list-style-type: none"> ① Open the Control Panel. <ul style="list-style-type: none"> Windows 8.1 1. Perform either of the following procedures. <ul style="list-style-type: none"> ● For the desktop screen: Right-click  at the bottom left corner of the Desktop screen. ● For the Start screen: Click  on the Start screen. 2. Click [Control Panel]. Windows 7 Click  (Start) - [Control Panel]. <ol style="list-style-type: none"> ② Click [Clock, Language, and Region] - [Date and Time]. ③ Click [Change time zone...]. ④ Select the time zone, then click [OK]. ⑤ Click [Change date and time...], then set the 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.

Troubleshooting (Basic)

■ Starting Up

<p>[Enter Password] does not appear when resuming from sleep / hibernation.</p>	<ul style="list-style-type: none"> ● Select [Enabled] in [Password On Resume] in the [Security] menu of the Setup Utility (→  <i>Reference Manual</i> “Setup Utility”). ● The Windows password can be used instead of the password set in the Setup Utility. <ol style="list-style-type: none"> ① Open the Control Panel. <p>Windows 8.1</p> <ol style="list-style-type: none"> 1. Perform either of the following procedures. <ul style="list-style-type: none"> ● For the desktop screen: Right-click  at the bottom left corner of the Desktop screen. ● For the Start screen: Click  on the Start screen. 2. Click [Control Panel]. <p>Windows 7</p> Click  (Start) - [Control Panel]. ② Windows 8.1 Click [System and Security] - [Power Option] - [Require a password on wakeup] and add a check mark for [Require a password]. Windows 7 Click [System and Security] - [Power Option] - [Require a password when the computer wakes] and add a check mark for [Require a password].
<p>The computer will not automatically enter sleep or hibernation.</p>	<ul style="list-style-type: none"> ● If you connect to a network using wireless LAN function, perform access point settings. (→  <i>Reference Manual</i> “Wireless LAN”) ● If you do not use wireless LAN function, turn off wireless LAN function. (→  <i>Reference Manual</i> “Disabling/Enabling Wireless Communication”) ● Make sure that you are not using any software that regularly accesses the hard disk.
<p>When logging on (e.g., resuming the computer), audio is distorted.</p>	<ul style="list-style-type: none"> ● Perform the following steps to change the audio settings to prevent audio output. <p>Windows 8.1</p> <ol style="list-style-type: none"> ① Click the [Desktop] tile on the Start screen. ② Right-click the desktop and click [Personalize] - [Sound]. ③ Remove the check mark from [Play Windows Startup sound], and click [OK]. <p>Windows 7</p> <ol style="list-style-type: none"> ① Right-click the desktop and click [Personalize] - [Sounds]. ② Remove the check mark from [Play Windows Startup sound], and click [OK].
<p>Cannot resume.</p>	<ul style="list-style-type: none"> ● One of the following operations may have been carried out. Slide the power switch to turn on the computer. Data not saved will be lost. <ul style="list-style-type: none"> • In sleep mode, the AC adaptor or battery pack was disconnected, or a peripheral was connected or disconnected. • The power switch was slid for four seconds or longer to forcibly turn off the computer.

■ Starting Up

<p>Other startup problems.</p>	<ul style="list-style-type: none"> ● Check to see if there was a disk error. <ol style="list-style-type: none"> ① Remove all peripheral devices including an external display. ② Windows 8.1 Perform either of the following procedures. <ul style="list-style-type: none"> ● For the desktop screen: <ol style="list-style-type: none"> 1. Right-click  at the bottom left corner of the Desktop screen. 2. Click [File Explorer]. ● For the Start screen: <ol style="list-style-type: none"> 1. Right-click  on the Start screen. 2. Click [PC]. Windows 7 Click  (Start) - [Computer]. ③ Windows 8.1 Right-click [Windows (C:)], and click [Properties]. Windows 7 Right-click [Local Disc (C:)], and click [Properties]. ④ Windows 8.1 Click [Tools] - [Check]. Windows 7 Click [Tools] - [Check Now...]. <ul style="list-style-type: none"> • A standard user needs to enter an administrator password. ⑤ Follow the on-screen instructions. <ul style="list-style-type: none"> ● Windows 7 Start the computer in Safe Mode and check the error details. (→ page 32 “Windows does not start up”.)
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■ Entering Password

<p>Even after entering the password, password input screen is displayed again.</p>	<ul style="list-style-type: none"> ● The computer may be in ten-key mode. If the NumLk indicator  lights, press NumLk to disable the ten-key mode, and then input. ● The computer may be in Caps Lock mode. If the Caps Lock indicator  lights, press Caps Lock to disable the Caps Lock mode, and then input.
<p>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 “@” mark. 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 26).
<p>Windows 7 Supervisor password or user password is not requested when resuming from sleep.</p>	<ul style="list-style-type: none"> ● Disable automatic update of Intel® Smart Connect Technology. For details, refer to “Help”. Click  on the notification area, click the Intel® Smart Connect Technology icon, place the cursor on “?”, and select “Help” in the menu that appears.

■ Shutting down

<p>Windows does not shut down.</p>	<ul style="list-style-type: none"> ● Remove all peripheral devices. ● Wait one or two minutes. It is not a malfunction.
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Troubleshooting (Basic)

■ Display

<p>When the screen becomes black for a moment.</p>	<ul style="list-style-type: none"> ● When you set [Display power saving function] of Power Plan Extension Utility to [Enabled], if you do the following operations, the screen becomes black for a moment, but this is not a malfunction. You can use it. <ul style="list-style-type: none"> • Adjust the brightness of the screen with Fn + F1 / Fn + F2. • Remove and insert the AC adaptor. <p>While you are using motion video playback software, benchmark software for graphic, if error screen is displayed or application software does not function normally, set [Display power saving function] to [Disabled].</p>
<p>No display.</p>	<ul style="list-style-type: none"> ● The external display is selected. Press Fn + F3 (or F4 + P) to switch the display. <p>Windows 7</p> <p>Wait until the display has been switched completely before pressing Fn + F3 (or F4 + P) again.</p> <p>Windows 8.1</p> <p>Then click the display mode.</p> ● The display is turned off by the power-saving function. To resume, do not press the direct selection keys, but press any other key like Ctrl. ● The computer entered sleep or hibernation by the power-saving function. To resume, slide the power switch. ● The screen may become darker. Press Fn + F2 to make the screen brighter.
<p>The screen is disordered.</p>	<ul style="list-style-type: none"> ● Changing the number of display colors and resolution may affect the screen. Restart the computer. ● The refresh rate of the internal LCD may be 40 Hz. Change the refresh rate of the internal LCD. <ol style="list-style-type: none"> ① Windows 8.1 <ol style="list-style-type: none"> 1. Click the [Desktop] tile on the Start screen. 2. Right-click on the desktop, and click [Graphics Properties]. <p>Windows 7</p> <p>Right-click on the desktop, and click [Graphics Properties].</p> ② Click [Display]. ③ If [Refresh Rate] for the Notebook is [40 Hz], change to [60 Hz] and click [Apply]. ④ Follow the on-screen instructions.
<p>The external display does not work normally.</p>	<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.

■ Battery

<p>The battery indicator lights red.</p>	<ul style="list-style-type: none"> ● The battery level is very low (the charge is approx. 9% or less). ● Connect the AC adaptor. You can use the computer when the indicator light is orange. If you do not have an AC adaptor, save your data and power off your computer. After replacing the battery pack with a fully charged one, turn your computer on again.
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■ Battery

The battery indicator is blinking.	<ul style="list-style-type: none">● If blinking red: Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact Panasonic Technical Support. The battery pack or charging circuit may be defective.● If blinking orange:<ul style="list-style-type: none">• Battery cannot be recharged temporarily because the internal temperature of the battery pack is outside the acceptable temperature range for recharging. Your computer can be used normally in this state. Once the range requirement is satisfied, charging begins automatically.• Software applications and peripheral devices (USB devices, etc.) are consuming too much power. Exit the software applications currently running, and remove all peripherals. Once the range requirement is satisfied, charging begins automatically.
The battery indicator is flashing.	<ul style="list-style-type: none">● The battery is recharging. If [Battery Charging Indicator] in [Main] menu of the Setup Utility is set to [Flashing], the indicator will alternately become lighter and darker.

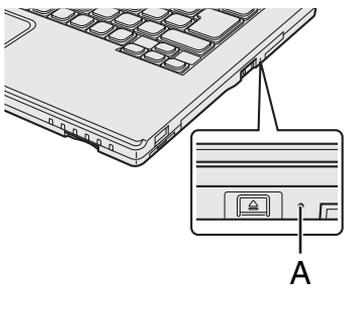
■ Touch Pad

The cursor does not work.	<ul style="list-style-type: none">● When using the external mouse, connect it correctly.● Restart the computer using the keyboard.● If the computer does not respond to keyboard commands, read “No response” (→ page 38).
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■ On-screen Document

Windows 7 The document of PDF format is not displayed.	<ul style="list-style-type: none">● Install Adobe Reader and update to its latest version. If your computer is connected to the internet, start up Adobe Reader and click [Help] - [Check for Updates...].
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■ CD/DVD Drive <Only for model with CD/DVD drive>

The tray does not come out although inserting a pointed object to the emergency hole.	<ul style="list-style-type: none">● A pin of 1.3 mm in diameter is recommended to remove a disc using the emergency hole (A). When the diameter of the pin is smaller than this, insert the pin slightly downward.	
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Troubleshooting (Basic)

■ Others

No response.	<ul style="list-style-type: none">● Press Ctrl + Shift + Esc to open Task Manager and close the software application that is not responding.● An input screen (e.g., password input screen at startup) may be hidden behind another window. Press Alt + Tab to check.● Press the power switch for four 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,<ol style="list-style-type: none">① Open the Control Panel. Windows 8.1<ol style="list-style-type: none">1. Perform either of the following procedures.<ul style="list-style-type: none">● For the desktop screen: Right-click  at the bottom left corner of the Desktop screen.● For the Start screen: Click  on the Start screen.2. Click [Control Panel]. Windows 7 Click  (Start) - [Control Panel].② Click [Program] - [Uninstall a program].
The battery status indicator lights green and then turns off immediately.	<ul style="list-style-type: none">● When the battery is fully charged and the computer is not operating (i.e., it is turned off or in sleep mode), the power supply from the AC adaptor stops and power consumption is inhibited. In such cases, the indicator will light green upon connecting the AC adaptor, but only for a moment.

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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 memory size and the hard disk drive (HDD) size:
Run the Setup Utility (→  *Reference Manual* "Setup Utility") and select [Information] menu.
[Memory Size]: Memory size, [Hard Disk]: Hard disk drive size

■ Main Specifications

Model No.	CF-LX3JD series
CPU/Secondary cache memory	Intel® Core™ i5-4310U vPro™ Processor (3 MB ^{*1} cache, up to 3.00 GHz with Intel® Turbo Boost Technology)
Chipset	Built-in CPU
Video controller	Intel® HD Graphics 4400 (Built-in CPU)
Main Memory	4 GB ^{*1} , DDR3L SDRAM (Max. 8 GB ^{*1})
Video Memory ^{*1*2}	<p>Windows 8.1 UMA 1792 MB Max.</p> <p>Windows 7 UMA <32-bit> 1554 MB Max. <64-bit> 1696 MB Max.</p>
Flash Memory Drive ^{*3}	<p>128 GB</p> <p>Windows 8.1 Approx. <For localized OS model> 15 GB / <For MUI OS model> 20 GB is used as a partition with HDD recovery tools. (Users cannot use this partition.) Approx. 1 GB is used as a partition with system tools. (Users cannot use this partition.)</p> <p>Windows 7 <Only for Windows 7 downgrade model> Approx. <For localized OS model> 30 GB / <For MUI OS model> 50 GB is used as a partition with HDD recovery tools. (Users cannot use this partition.) Approx. 300 MB is used as a partition with system tools. (Users cannot use this partition.)</p>

Specifications

■ Main Specifications

Model No.		CF-LX3JD series
<Only for model with CD/DVD drive> CD/DVD drive ^{*4}		DVD MULTI Drive built-in, Buffer underrun error prevention function: Supported
Continuous Data Transfer Speed ^{*5*6}	Reading ^{*7}	<ul style="list-style-type: none"> ●DVD-RAM^{*8}: 5X (Max.) ●DVD-ROM: 8X (Max.) ●DVD-R^{*9}: 8X (Max.) ●DVD-R DL: 8X (Max.) ●DVD-RW: 8X (Max.) ●+R: 8X (Max.) ●+R DL: 8X (Max.) ●+RW: 8X (Max.) ●High Speed +RW: 8X (Max.) ●CD-ROM: 24X (Max.) ●CD-R: 24X (Max.) ●CD-RW: 24X (Max.) ●High-Speed CD-RW: 24X (Max.) ●Ultra-Speed CD-RW: 24X (Max.)
	Writing ^{*10}	<ul style="list-style-type: none"> ●DVD-RAM^{*8}: 5X (Max.) ●DVD-R^{*9}: 8X (Max.) ●DVD-R DL: 6X (Max.) ●DVD-RW: 6X (Max.) ●+R: 8X (Max.) ●+R DL: 6X (Max.) ●+RW: 4X (Max.) ●High Speed +RW: 8X (Max.) ●CD-R: 24X (Max.) ●CD-RW: 4X (Max.) ●High-Speed CD-RW: 10X ●Ultra-Speed CD-RW: 16X (Max.)
Supported Discs/Format	Reading	<ul style="list-style-type: none"> ●DVD-RAM^{*8} (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)^{*3} ●DVD-ROM (Single Layer, Dual Layer) ●DVD-Video ●DVD-R^{*9} (1.4 GB, 2.8 GB, 4.7 GB)^{*3} ●DVD-R DL (8.5 GB)^{*3} ●DVD-RW (Ver.1.1/1.2 1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)^{*3} ●+R (4.7 GB)^{*3} ●+R DL (8.5 GB)^{*3} ●+RW (4.7 GB)^{*3} ●High Speed +RW (4.7 GB)^{*3} ●CD-Audio ●CD-ROM (XA compatible) ●Photo CD (multiple session compatible) ●Video CD ●CD EXTRA ●CD-TEXT ●CD-R ●CD-RW ●High-Speed CD-RW ●Ultra-Speed CD-RW
	Writing	<ul style="list-style-type: none"> ●DVD-RAM^{*8} (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)^{*3} ●DVD-R^{*9} (1.4 GB, 2.8 GB, 4.7 GB for General)^{*3} ●DVD-R DL (8.5 GB)^{*3} ●DVD-RW (Ver.1.1/1.2 1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)^{*3} ●+R (4.7 GB)^{*3} ●+R DL (8.5 GB)^{*3} ●+RW (4.7 GB)^{*3} ●High Speed +RW (4.7 GB)^{*3} ●CD-R ●CD-RW ●High-Speed CD-RW ●Ultra-Speed CD-RW
Display Method		14.0", HD+ 1600 x 900
Internal LCD		65,536/16,777,216 colors (1600 × 900 dots) ^{*11}
External Display ^{*12}		65,536/16,777,216 colors (1024 × 768 dots/1280 × 768 dots/1280 × 1024 dots/1360 × 768 dots/1366 × 768 dots/1400 × 1050 dots/1600 × 900 dots/1600 × 1200 dots/ 1680 × 1050 dots/1920 × 1080 dots/1920 × 1200 dots)
Simultaneous Display on LCD + External Display ^{*12}		65,536/16,777,216 colors (1024 × 768 dots/1280 × 768 dots/1360 × 768 dots/1366 × 768 dots/1600 × 900 dots) ^{*11}
Wireless LAN		Intel® Dual Band Wireless-N 7260 (→ page 44)
Wireless WAN		Not equipped
Bluetooth ^{*13}		→ page 44
LAN		IEEE 802.3 10Base-T / IEEE 802.3u 100BASE-TX / IEEE 802.3ab 1000BASE-T
Sound		WAVE and MIDI playback, Intel® High Definition Audio subsystem support
Security Chip		TPM (TCG V1.2 compliant)
Card Slots	PC Card Slot	None
	ExpressCard Slot	None
	SD Memory Card Slot ^{*14}	x 1
RAM Module Slot		x 1, DDR3L SDRAM, 204-pin, 1.35 V, SO-DIMM, PC3L-12800

■ Main Specifications

Model No.		CF-LX3JD series	
Interface		USB 3.0 Ports x 2 ^{*15} / USB 2.0 Port x 1 ^{*16} / LAN Port (RJ-45) x 1 / External Display Port (VGA) (Mini Dsub 15-pin female) / HDMI Port (Type A) ^{*17} / Microphone Jack (Miniature jack, 3.5 DIA) / Headphone Jack (Miniature jack, 3.5 DIA)	
Keyboard / Pointing Device		89keys UK English Keyboard or 89keys German Keyboard or 89keys French Keyboard or 89keys Spanish Keyboard or 89keys Italian Keyboard / Touch Pad	
Camera	Resolution	FHD 1080p	
	Effective number of pixels	Max. 1920 x 1080	
	Microphone	Built-in (Microphone Array)	
Ambient light sensor		Equipped	
Power Supply		AC adaptor, or Battery pack	
AC Adaptor ^{*18}		Input: 100 V - 240 V AC, 50 Hz/60 Hz, Output: 16 V DC, 4.06 A	
Battery Pack		Li-ion 10.8 V, Typical 7100 mAh / Minimum 6800 mAh	
Operating Time ^{*19}		Approx. 14 hours, (Economy Mode (ECO) - Disable)	
Charging Time ^{*20}		Approx. 3 hours	
Remaining battery indicator recalibration time		Full charge: Approx. 3 hours (max.) Complete discharge: Approx. 7 hours (max.)	
Power Consumption ^{*21}		Approx. 25 W ^{*22} / Approx. 65 W (maximum when recharging in the ON state)	
Physical Dimensions (W × D × H)		333 mm × 225.6 mm × 24.5 mm	
Weight ^{*23}		Approx. 1.34 kg (for models with CD/DVD drive) Approx. 1.26 kg (for models without CD/DVD drive)	
Environment	Operating	Temperature	5 °C to 35 °C
		Humidity	30% to 80% RH (No condensation)
	Storage	Temperature	-20 °C to 60 °C
		Humidity	30% to 90% RH (No condensation)

■ Software

Base OS	Windows® 8.1 Pro Update 64-bit
Installed OS ^{*24}	<p>Windows 8.1 Windows® 8.1 Pro Update 64-bit</p> <p>Windows 7 <Only for Windows 7 downgrade model> Windows® 7 Professional 32-bit Service Pack 1 (downgraded to Windows® 7) / Windows® 7 Professional 64-bit Service Pack 1 (downgraded to Windows® 7)</p>

- *1 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 MB = 1,000,000 bytes / 1 GB = 1,000,000,000 bytes. Your operating system or some application software will report as fewer GB.
- *4 Only for model with CD/DVD drive. The specification may differ depending on models.
- *5 Data transfer speeds indicate values measured by Panasonic Corporation. The data transfer rate of DVD per 1X speed is 1,350 KB/s. The data transfer rate of CD per 1X speed is 150 KB/s.
- *6 Performance of DVD-RAM, DVD-R, DVD-R DL, DVD-RW, +R, +R DL, +RW, High Speed +RW, CD-R, CD-RW, High-Speed CD-RW and Ultra-Speed CD-RW cannot be guaranteed depending on the writing conditions and recording format. In addition, depending on the disc, settings, and environment being used, playback of some data may not be possible.
- *7 If an unbalanced disc (e.g., a disc with which the balance has been displaced from the center) is inserted, the speed may become slower if there are large vibrations while the disc is rotating.
- *8 Only non-cartridge type or removable cartridge type can be used. 2.6 GB DVD-RAM is not supported.
- *9 DVD-R is compatible with 4.7 GB (for General) playback. DVD-R (for Authoring) playback is compatible with discs recorded using Disc-at-Once recording.
- *10 Depending on the disc, the writing speed may become slower.
- *11 A 16,777,216 color display is achieved by using the dithering function.
- *12 Display may be impossible using some connected external displays.
- *13 Does not guarantee operation of all Bluetooth-compatible peripherals.
- *14 Operation has been verified for Panasonic SD Memory Cards with capacities of up to 2 GB, Panasonic SDHC Memory Cards with capacities of up to 32 GB, and Panasonic SDXC Memory Cards with capacities of up to 64 GB.
Operation is not guaranteed for all SD devices.
- *15 Compatible with USB 1.1/2.0/3.0. Does not guarantee operation of all USB-compatible peripherals.
- *16 Compatible with USB 1.1/2.0. Does not guarantee operation of all USB-compatible peripherals.
- *17 Does not guarantee operation of all HDMI-compatible peripherals.
- *18 <Only for North America>
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
- *19 Measured with LCD brightness : 60 cd/m²
Varies depending on the usage conditions, or when an optional device is attached.
- *20 Varies depending on the usage conditions, CPU speed, etc.
- *21 Approx. 0.5 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. 0.4 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 Operations of this computer are not guaranteed except for the pre-installed OS and the OS which is installed by using the hard disk recovery and the recovery disc.
- *25 Must be installed before use.
- *26 **Windows 7**
Perform on the recovery partition. (If this software can not be performed on the recovery partition, perform from the recovery disc)
- Windows 8.1**
Perform from the recovery disc.
- *27 To continue using this software after the end of the trial, purchase a license by following the on-screen instructions.
- *28 These are speeds specified in IEEE802.11a+b+g+n standards. Actual speeds may differ.
- *29 Available when set to "WPA-PSK", "WPA2-PSK" or "none".
- *30 Only available when HT40 enabled by the computer.
- *31 Common channels and frequencies are listed here. The actual channels and frequencies that can be used will vary depending on your country or region.

Standard Limited Warranty

Panasonic System Communications Company Europe

Panasonic System Communications Company 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
- Toughpads (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. PANASONIC WILL NOT BE RESPONSIBLE FOR ANY LIABILITY RESULTING FROM THE USE OF THIS PRODUCT ARISING OUT OF THE FOREGOING USES.

Panasonic System Communications Company Europe

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.

Standard Limited Warranty

Panasonic System Communications Company Europe

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.

Contacts

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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.

22-E-1

Panasonic Corporation

Osaka, Japan

Importer's name & address pursuant to the EU legislation

Panasonic System Communications Company Europe, Panasonic Marketing Europe GmbH

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Germany