



OPERATING INSTRUCTIONS

Personal Computer

Model No. **CF-S10 series**

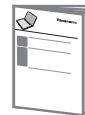
(Windows 7)

The documentation for this personal computer includes the *OPERATING INSTRUCTIONS* and *Reference Manual* (操作マニュアル) etc. Use these resources as described below.

Read First

Preparation and Setting Guide

- Check and identify the supplied accessories.



Supplied accessories, Setup Windows, Options, Warranty, After Sales Service, etc.

Read Second

OPERATING INSTRUCTIONS (This book)



Reference Manual

Double-click on the desktop.



Basic Operation, Settings, Expanding Memory, Reinstalling Software, etc

Internet, Customizing the Power Setting, etc

Use for Troubleshooting

“If a Problem Occurs in the Computer” in the **OPERATING INSTRUCTIONS** (this book) (→ page 62)

Use as Required

Wireless LAN Guide



NetSelector2



Hard Disk Handling



Installation Manual of “Trusted Platform Module (TPM)”



(How to display
→ page 19 in this book)



: Reference to the on-screen manuals of the computer.

Warranty attached separately

Thank you for purchasing this Panasonic product.

- Please read these instructions carefully before using this computer.
- **Be sure to read “Precautions” (pages 12 to 17) before using this computer.**
- Check that entries such as “Purchase date and dealer name” on the warranty are correct, and save this manual for future use.
- For the model number, see the model number display on the bottom of the computer or check in “Specifications.”

Things You Can Do with Let'snote

Increase your enjoyment



- **Broadband by using wireless**
Equipped with wireless LAN.*1

- **Equipped with a SD memory card slot**

*1 Using the 5.2 GHz/5.3 GHz band (W52/W53) for communication outdoors is prohibited by the Radio Act. Before taking this computer outdoors when using W52/W53 and with the wireless LAN power turned on, set IEEE802.11a to be disabled (→ *Reference Manual* " (Wireless).") Using the 5.47 GHz to 5.725 GHz frequency band (W56) outdoors is not prohibited by the Radio Act.

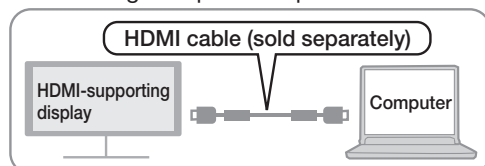
Convenient use

- **Switching between multiple networks**

With NetSelector2, you can easily switch between networks; for example, by setting "Wireless LAN at home, Wired LAN at work."

- **Connecting with HDMI**

In addition to conventional external display port, supporting digital output with a HDMI port. You can connect the computer to a large-screen monitor to give a powerful presentation.



- **Windows 7 (32-bit) or Windows 7 (64-bit) can be selected**

When reinstalling Windows using the data of the recovery area on the hard disk, you can select the OS to be installed (either Windows 7 (32-bit) or Windows 7 (64-bit)). (→ page 81)

Protect your computer



- **Security settings suitable for you**

The Security Setting Utility provides various security countermeasures, such as passwords. (→ page 31)

- **Protects from viruses**

In models with displayed on the desktop, the MacAfee PC Security Center can be set up.

Easy use



- **Changing the computer settings to suit your objectives**

In addition to the standard Windows power plans, the following five power plans are available: [Panasonic Power Management (Standard)], [Panasonic Power Management (Presentation)], [Panasonic Power Management (Mobile)], [Panasonic Power Management (Power Saving)] and [Panasonic Power Management (Better Heat Dispersion)].

When giving a presentation in a meeting, set the power plan to [Panasonic Power Management (Presentation)].

This is the most appropriate plan for a presentation, with settings such as keeping the screen on and preventing the screensaver from being displayed.

The power plan can be set using the Power Plan Extension Utility or the Peak Shift Control Utility.

- **Reducing the Windows startup time**

Use Quick Boot Manager to change settings such as the Windows settings to reduce the time it takes for Windows to start up after turning on the computer.

→ *Reference Manual* " (Using Let'snote)."

For detailed explanations, use *Reference Manual* on the screen.



Double-click

Click the corresponding item.



Wireless



Security Measures



Battery



Peripherals







Using Let'snote

etc

Contents

The following manuals are provided for the safe, comfortable and convenient use of this computer.

Preparation and Setting Guide Please read this instruction carefully before using this computer.	<ul style="list-style-type: none"> • When using for the first time (Preparations and settings before use, and checking the supplied items) • For information about consumable items, separately sold products and after-sales service
Operating Instructions (This book)	<ul style="list-style-type: none"> • For information about the basic operations and the specifications. • Troubleshooting (When you cannot view the on-screen manual)
 Reference Manual and Troubleshooting 	<ul style="list-style-type: none"> • For information about the computer's functions, operations and utilization methods • For information about the security functions • Troubleshooting

Things You Can Do with Let'snote	2
Contents	3
 <i>Reference Manual</i>	6
 <i>Troubleshooting</i>	6

● Precautions

Precautions	7
--------------------	----------


● Preparations

Usage Precautions	12
If You Spill Water on the Keyboard	12
Operation/Storage Environment	12
If the computer becomes warm during usage	13
To protect data on the hard disk	14
Support information for Windows 7 pre-installed models	14
When carrying the computer	14
Maintenance	15
When using the computer in a high ambient temperature	15
Backing up and restoring e-mail, etc.	16
When the battery indicator does not light on	16
When using peripheral devices	16
Keep the recovery disc in a safe place	16
About security when using wireless LAN	16
About the power-saving settings	17
Sound and Video	17

About Notations	18
How to Use the On-screen Manual	19

How to access the <i>Reference Manual/Troubleshooting</i>	19
How to access the <i>NetSelector2</i>	19
How to access the <i>Hard Disk Handling</i>	19
How to access the <i>Installation Manual of Trusted Platform Module (TPM)</i>	19
How to access the <i>Windows Help</i>	19

Names and Functions of Parts	20
Status Indicator Lamps	23
Screen Display	24

Icons on the Notification Area (click the  icon to display all icons.)	24
Adjusts the LCD Brightness	25

● Getting Started

Starting Up/Shutting Down	26
Starting Up	26
Shutting Down (power off your computer)	27
When you leave the computer or interrupt your work	27
Using the Touch Pad	28
Adjusting the Sensitivity when Touching the Touch Pad	28
Switching to Enable/Disable the Touch Pad	29
Handling the Touch Pad	29
Using the Fn Key	30
Security Measures	31
Step-by-step security measures	31
Configuring settings in the Security Setting Utility	32

Contents

Battery Power	36
Operating Time	36
Minimizing battery pack degradation	37
Battery's Economy Mode (ECO)	37
Sleep/Hibernation Functions	38
Differences between the Sleep and Hibernation Functions	38
Changing the time until entering sleep or hibernation or disabling the function	38
Entering the Sleep or Hibernation Mode	39
Resuming Operation (Recovery from sleep or hibernation mode)	40
Precautions	40
CD/DVD Drive	41
Locations for Using the Drive	41
While the drive is being accessed	41
Drive Operation Sounds	41
Operation of the Drive Power/Open Switch	41
When the CD/DVD Drive Power Is Turned Off	41
Inserting/Removing a Disc	42
When opening the disc cover	43
About Playback of Media Recorded with CPRM	43
Using WiMAX	44
Precautions Regarding WiMAX Communication Contracts	44
Using WiMAX for the First Time	44
Connect to the Internet	44
MAC Address	45
Expanding Memory	46
Inserting the RAM Module	46
Confirm the total size of memory	48
Removing the RAM Module	48
Setup Utility	49
Starting/Closing the Setup Utility	49
Items Restricted with the User Password	50
How to use the screen	51
Information Menu	52
Main Menu	52
Advanced Menu	53
Boot Menu	54
Security Menu	55
Exit Menu	60

Changing Hard Disk Partitions... 61


What is "Partitions"? 61

● Troubleshooting

If a Problem Occurs in the Computer

Resolving Problems	62
Contact for repair	63

Problems with Starting Up, Shutting Down, and Sleep and Hibernation Mode



The computer does not power on/The battery indicator  is not lit	64
If Windows is started up while the SD/SDHC/SDXC memory card is inserted, Check Disk (CHKDSK) will be executed	64
Windows does not start up	65
When logging on (e.g., resuming the computer), audio is distorted	65
To switch between Windows 7 (64-bit) and Windows 7 (32-bit)	65
“Remove disks or other media. Press any key to restart” or a similar message appears	65
Cannot boot from a floppy disk	66
Cannot log on after changing the user name	66
Windows startup or operation is slow.	66
The computer does not resume	67
The drive power remains off when the computer is started up	67
The computer does not power off (Windows does not shut down)	67

Problems with password/message

Even after entering the password, a message appears requesting to type it again. . . .	68
Cannot input the character even after pressing a key	68
“Enter Password” is displayed	68
The password input screen is not displayed	68

Even after connecting the AC adaptor, a message appears requesting to connect it	68
“The ‘MATSHITA DVDXXXXXXXX’ device can now be safely removed from ...” is displayed	68
When the administrator password is forgotten	69
Windows does not start up and numbers or messages appear	69

Problems with Battery

The battery operating time is short	70
You do not know the lifetime of the battery	70
The battery pack is not charged	70
The battery indicator  lights red.	70
The battery indicator  is blinking	70
[Executing Battery Recalibration] screen appears	70

Problems with Cursor/Display

The cursor cannot be controlled properly	71
The cursor moves randomly	71
The cursor cannot be moved with a connected mouse	71
There is an afterimage	71
The touch pad is disabled when you connect a USB mouse	71
Screen is too dark or becomes darker	71
There are red, green, or blue dots on the screen, or there is unevenness in colors and brightness on the screen	71
The screen becomes disordered.	72
The images appearing on the screen will be stretched	72
Screen became black for instant	72
Nothing is displayed on the screen.	73

Problems with Recovery Disc (Product Recovery DVD-ROM)

Product Recovery DVD-ROM is not attached	74
You do not know the making method of the Recovery Disc	74

Hardware Diagnostics

Hardware that can be checked using the PC-Diagnostic Utility	75
Regarding the PC-Diagnostic Utility	76
Running the Diagnostic Check	76
When the Icon Becomes Gray and the Corresponding Device Cannot Be Checked	78

Hard Disk Backup/Restore Function

Creating a Backup of the Hard Disk Data	79
Restoring the Hard Disk Data	79
About [System Recovery Options]	80

Reinstalling Software

What is “Reinstallation”?	81
Preparation	81
Reinstalling	82
Using Recovery Disc	85
Confirm the system type of Windows	86

When Disposing of This Computer


Before Erasing Data	87
Completely Erasing Data.	87

Error Message

.	89
-----------	----

● Specifications

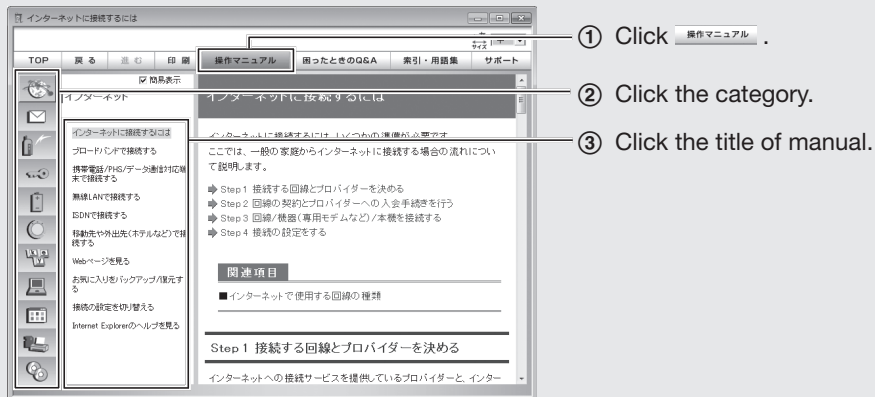
Specifications	90
--------------------------	----

For detailed information, refer to  *Reference Manual*.
For the warranty and after-sales service, refer to the supplied *Preparation and Setting Guide*.

Reference Manual (操作マニュアル)

Refer to this manual when you want information about the detailed functions, operations, utilization methods and security functions of this computer.

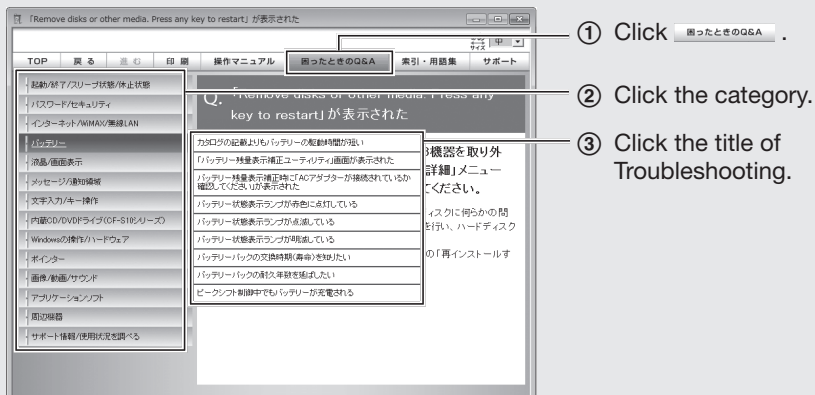
Double-click  on the desktop.



Troubleshooting (困ったときのQ&A)

Refer to  Troubleshooting when a problem occurs.

Double-click  on the desktop.



Precautions

Be sure to observe

This section describes precautions that must be observed to prevent harm to people or damage to property.

- The levels of harm or damage caused by incorrect operation are described using different categories.



Danger

Indicates a high risk of serious injury or death.



Warning

Indicates a risk of serious injury or death.



Caution

Indicates a risk of minor injury or damage to property.

- Information that must be observed is described with the following symbols.



Actions that are prohibited.



Actions that must be performed.

Precautions for the battery pack



Danger

Do Not Throw the Battery Pack into a Fire or Expose It to Excessive Heat



Prohibited

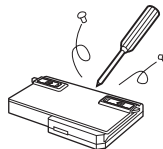


Generation of heat, ignition or rupture may result.

Do Not Insert Sharp Objects into the Battery Pack, Expose It to Bumps or Shocks, Disassemble, or Modify It



Prohibited



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

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

Do Not Short the Positive (+) and Negative (-) Contacts



Prohibited



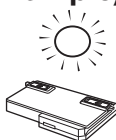
Generation of heat, ignition or rupture may result.

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

Avoid Extreme Heat (Near the Fire, in Direct Sunlight, for Example)



Prohibited



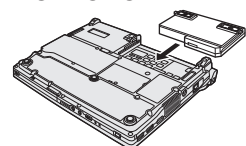
Electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Charge the Battery Using Methods Other Than Those Specified



If the battery is not charged using one of the specified methods, electrolyte leakage, generation of heat, ignition or rupture may result.

When the battery pack has deteriorated, replace it with a new one



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

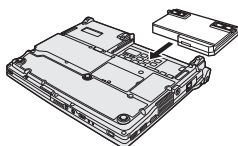
Precautions Be sure to observe

Precautions for the battery pack



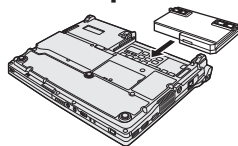
Danger

Do Not Use With Any Other Product



The battery pack is rechargeable and was intended for the specified product. If it is used with a product other than the one for which it was designed, electrolyte leakage, generation of heat, ignition or rupture may result.

Do Not Use This Product With a Battery Pack Other Than the One Specified



Use only the specified battery pack (→ *Preparation and Setting Guide*) with your product. Use of battery packs other than those manufactured and supplied by Panasonic may present a safety hazard (generation of heat, ignition or rupture).



Warning

If a Malfunction or Trouble Occurs, Immediately Stop Use

If a Malfunction Occurs, Immediately Unplug the AC Plug (and the Battery Pack)



- This product is damaged
 - Foreign object inside this product
 - Smoke emitted
 - Unusual smell emitted
 - Unusually hot
- Continuing to use this product while any of the above conditions are present may result in fire or electric shock.**
- If a malfunction or trouble occurs, immediately turn the power off and unplug the AC plug (and then remove the battery pack). Then contact your technical support office for repair.

Do Not 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.)



Prohibited



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

- For repair of the cord or plug, contact your technical support office.

Clean Dust and Other Debris of the AC Plug Regularly



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

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

Warning

Do Not Use in Excess of the Outlet or Wiring Fixture Rating, or With a Power Supply Other Than 100 V AC



Prohibited



Exceeding the rating, such as by using power strips, may cause overheating and fire.

Do Not Pull or Insert the AC Plug If Your Hands Are Wet



No wet hands



Electric shock may result.

Insert the AC Plug Completely



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

- Do not use a damaged plug or loose AC outlet.

Do Not Use With Exposing the Skin To This Product For a Long Period of Time



Prohibited

Using this product with exposing the skin to the heat source of this product or AC adaptor for a long period of time can cause a low-temperature burn.

Do Not Place Containers of Liquid or Metal Objects on Top of This Product



Prohibited



If water or other liquid spills, or if paper clips, coins, or foreign matter get inside this product, fire or electric shock may result.

- If water spills in the keyboard, refer to page 12. If other foreign matter has found its way inside, immediately turn the power off and unplug the AC plug and remove the battery pack. Then contact your technical support office.

Do Not Expose Yourself to the Hot Wind from the Ventilation Hole (Exhaust) For a Long Period of Time



Prohibited

Low-temperature burns*¹ may result. Covering the ventilation hole (exhaust) with your hand or other object can cause heat to build up inside, possibly resulting in burns.

Keep SD Memory Cards Away from Infants and Small Children



Prohibited

Accidental swallowing will result in bodily injury.

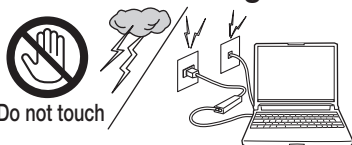
- In the event of accidental swallowing, see a doctor immediately.

*¹ People with poor blood flow (vascular disorders, blood circulation abnormalities, diabetes, people subjected to strong pressure) and people with low sensation on their skin (such as elderly people) are prone to low-temperature burns.

Precautions Be sure to observe

Warning

Do Not Touch This Product and Cable When It Starts Thundering



Do not touch

Electric shock may result.

Do Not Disassemble This Product



Do not disassemble

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

Do Not Turn the Volume Up To Loud When Using Headphones



Prohibited

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

Keep at Least 22 cm Away from the Installation Location of an Implanted Cardiac Pacemaker



The radio waves may affect the operation of the pacemaker.

Turn Off the Power Inside an Airplane*²



Otherwise, the safety of the flight may be impaired. Follow the instructions of the airline regarding the use of computers inside the airplane.

Do Not Use Near Automatically Controlled Devices, such as Automatic Doors or Fire Alarms



Prohibited

The radio waves from the computer may affect automatically controlled devices and cause an accident due to mistaken operation.

Turn Off the Power Inside a Hospital or Locations With Medical Electronic Devices*²



Do not take into operating rooms, intensive care units or CCUs.*³

The radio waves from the computer may affect medical electronic devices and cause an accident due to mistaken operation.

In a Crowded Location such as a Full Train Carriage, Turn Off the Power Because Someone with a Cardiac Pacemaker May Be Nearby*²



The radio waves may affect the operation of the pacemaker.

*² If you must use the computer in this kind of environment, slide the wireless switch to the left (OFF side). However, note that in some situations it is prohibited to use a computer even if the wireless power is turned off, such as during airplane takeoff or landing.

*³ CCU is an abbreviation of Coronary Care Unit.

Caution

Do Not Place This Product on Unstable Surfaces



Prohibited

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

Do Not Keep This Product Wherever There is a Lot of Water, Moisture, Steam, Dust, Oily Vapors, etc.



Prohibited

Otherwise, possibly resulting in fire or electric shock.

Avoid Stacking



Prohibited

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

Caution

Do Not Move This Product While the AC Plug Is Connected



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

Prohibited

- If the AC cord is damaged, unplug the AC plug immediately.

Do Not Leave This Product in High Temperature Environment for a Long Period of Time



Prohibited

Leaving this product where it will be exposed to extremely high temperatures such as near fire or in direct sunlight may deform the cabinet and/or cause trouble in the internal parts. Continued use in such a resulting condition may lead to short-circuiting or insulation defects, etc. which may in turn lead to a fire or electric shocks.

Hold the Plug When Unplugging the AC Plug



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

Take a Break Of 10-15 Minutes Every Hour



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

Do Not Block the Ventilation Hole (Exhaust)



Prohibited

Using this product wrapped in cloth or on top of bedding or a blanket can block the ventilation hole and cause heat to build up inside, possibly resulting in a fire.

Do Not Connect a Telephone Line, or a Network Cable Other Than the One Specified, Into the LAN Connector



Prohibited

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

- Networks other than 1000BASE-T, 100BASE-TX or 10BASE-T
- Phone lines (IP phone (Internet Protocol Telephone), Telephone lines, internal phone lines (on-premise switches), digital public phones, etc.)

Do Not Subject the AC Adaptor To Any Strong Impact



Prohibited

Using the AC adaptor after a strong impact such as being dropped may result in electric shock, short circuit, or fire.

- For repair of the AC adaptor, contact your technical support office.

Use Only the Specified AC Adaptor With This Product



Using an AC adaptor other than the one supplied (supplied with the computer or one sold separately as an accessory) may result in a fire.

Do Not Look into the CD/DVD Drive



Prohibited

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

Do Not Use Discs That Are Cracked or Deformed



Prohibited

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.

A laser is used in this computer. Caution - Control or adjustment using procedures other than those specified here may lead to exposure to dangerous laser radiation. Do not disassemble or repair.

14-J-1-1

クラス1 レーザー製品

Usage Precautions

If You Spill Water on the Keyboard

The keyboard on this computer incorporate a drain system (a moisture protection mechanism) that minimizes the amount of liquid reaching the inside of the computer even if water is spilled on the keyboard.

Any water that comes in contact with the keyboard is drained off through holes in the bottom of the computer, so that virtually no water is left inside the computer. However, this is not a guarantee against damage to the hard disk or other internal parts, or against the loss or deletion of data.

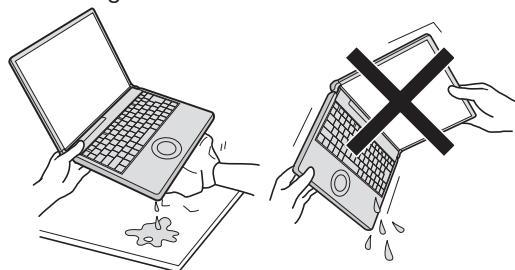
The drain system is incorporated into only the keyboard. It does not apply to any other components.

- If you spill water or any other liquid on the keyboard, even a small amount, be sure to perform the following steps. Failure to perform these steps may result in damage to the computer. The drain system will not provide complete protection against water entering the computer.

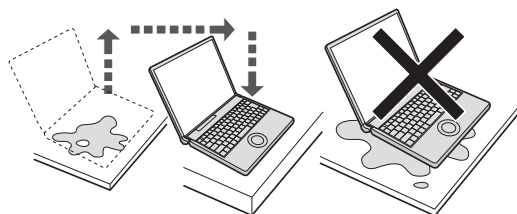
- ① Immediately turn off the computer, and remove the AC adaptor.
- ② Wipe any water droplets off of the top of the keyboard using a soft, dry cloth.



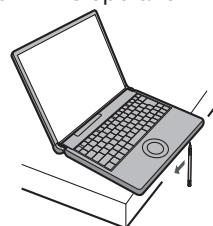
- ③ Slowly lift up the computer, keeping it level, and wipe any water coming out of the holes on the bottom using a soft, dry cloth. If the computer is tilted during this step, liquid may seep inside the computer resulting in damage.



- ④ Keeping the computer level, move the computer to a dry place. If the computer is placed back on the wet surface, water may seep inside the computer from the bottom.



- ⑤ Insert the tip of a ball-point pen or other object into the emergency hole on the bottom of the computer, and move it in the direction of the arrow to open the disc cover. The computer should be kept level, without tilting, while the disc cover is being opened. Move the computer to the edge of the desk or table to perform this operation.



- ⑥ Check to see whether there is any water inside the CD/DVD drive. If there is water inside, wipe it using a soft, dry cloth.
- ⑦ Remove the battery pack.
- ⑧ Be sure to contact your technical support office to have the computer checked for any malfunctions.

Note that repairs resulting from liquids being spilled on the computer are not free of charge, and not covered by warranty.

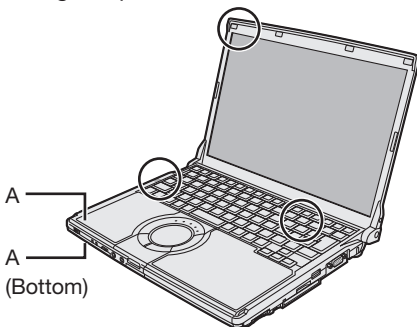
Operation/Storage Environment

- Place the computer on a flat stable surface. Do not place the computer upright. If the computer is exposed to an extremely strong impact, it may become inoperable.
- Operation Temperature : 5 °C to 35 °C
Humidity : 30 %RH to 80 %RH
(No condensation)
- Storage Temperature : -20 °C to 60 °C
Humidity : 30 %RH to 90 %RH
(No condensation)

Even within the above temperature/humidity ranges, using for a long time in an extreme environment will result in the computer deterioration and will shorten the computer 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. Although there is no danger of smoke, fire or malfunctions occurring when the display is closed, the temperature may rise and cause slower operation, or depending on the computer orientation (vertical installation, etc.), the computer may turn off for protection.
 - Keep the computer clear of electromagnetic cards and objects that emit electromagnetic waves.
 - Do not place the computer near magnets, electromagnetic bracelets, or other magnetic fields.
 - This computer contains a magnet and magnetic products at the locations circled in the illustration below. Avoid leaving metallic object or magnetic media in areas.
 - Do not place magnetic items near position A in the figure below.
- In the default settings, when the computer display is closed, the display turns off and enters sleep.

If a magnetic item is placed near position A, it may be judged that the display has been closed, resulting in the display turning off and entering sleep.



When the computer is used continuously for a long time, depending on the usage conditions, replacement due to the expiry of the service life of parts may be required even during the warranty period (paid-for replacement may be required).



If the computer becomes warm during usage

The computer may become hot due to the operation of the CPU or other parts, but this is not a malfunction.

Using Intel® Wireless Display to display*¹ the computer image on an external display increases the processing load on the CPU. As a result, the computer may become warm.

- **When the screen is displayed on the external display using Intel® Wireless Display*¹, set the power plan to [Power saver].**
([Power saver] restrains performance. Accordingly, using software application or peripheral devices frequently may slow the computer processing speed.)

*¹ Intel® Wireless Display allows you to wirelessly display images from the computer on an external display. This is useful for displaying the computer screen on a large screen, such as a television, for viewing by many people.

- **When Intel® Wireless Display is not used, you can lower the heat inside the computer by setting the followings.**
 - Set the power plan to [Panasonic Power management (Better Heat Dispersion)]. The following settings will change.
 - Change to [High Speed] 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 [None].
 - Other setting changes such as the lowering of the internal LCD brightness and disabling of Windows Aero will take place.
- 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].
Click  on the notification area, click  and then click [Fan control mode]. Then, click [Standard] or [Low Speed].

Usage Precautions

CAUTION

- When the power plan is set to [Panasonic Power Management (Better Heat Dispersion)], the image quality, such as in the gradation display, may deteriorate.
- Processing may become slower, depending on the software application. If this happens, return the power plan to [Panasonic Power Management (Standard)].
- If you are not using a wireless LAN, turn the wireless LAN off.
- **Use recommended RAM module products.**
The computer may not operate properly and may become warm your computer by using non-recommended RAM modules.

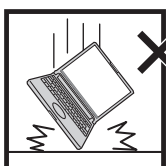
NOTE

The AC adaptor becomes warm during usage. It is not a malfunction.

To protect data on the hard disk

Keep the following.

- **Use care when handling your computer. Do not expose your computer to shock.**



The hard disk is vulnerable to shocks, and if damaged, it may no longer be possible to use data, Windows or software applications.

- **Do not power off your computer while software applications are running or access indicator is on.**



Properly shut Windows down from the (Start) menu to avoid problems.

- **Do not place the computer close to objects that emit electromagnetic waves (magnets, electromagnetic bracelets, etc.).**



The data saved on the hard disk may be erased.

- **Use the security function for all important data.**



→ *Reference Manual*
“Security”

Refer to *Hard Disk Handling*. (→ page 19)

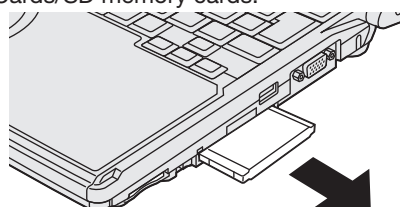
Support information for Windows 7 pre-installed models

You can obtain support information for Windows 7 pre-installed models, such as the precautions for Windows 7, from the following website.
http://askpc.panasonic.co.jp/win7/pre_in/index.html

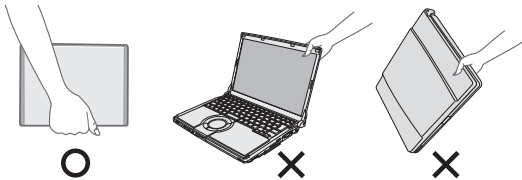
When carrying the computer

Observe the following

- This computer is designed to minimize shock to parts such as the hard disk drive, but no warranty is provided against any trouble caused by shock. Be extremely careful when handling the computer.
- Turn off the computer.
- Remove all external devices, cables and protruding PC Cards/SD memory cards.



- Do not pick up or hold the computer by the display part.



- Do not drop or hit the computer against solid objects.
- 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.
- 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.

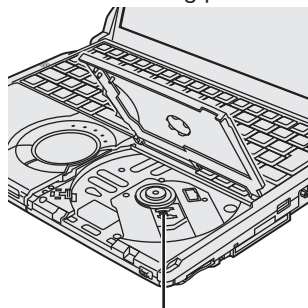
We recommend the following

- Preparing an AC adaptor (sold separately) and a spare battery pack (sold separately).
- When carrying a spare battery, put it in a plastic bag to protect its terminals.
- Making backup copies on SD memory cards, USB memory devices or external hard disk (sold separately) etc.

Maintenance

- To clean the LCD panel and touch pad
Wipe lightly with a gauze or other dry, soft cloth.
- To clean areas other than the LCD panel and touch pad
Wet a soft cloth with water or a diluted kitchen cleanser (neutral), wring the cloth out thoroughly, and wipe the dirty area gently. Using a detergent other than a neutral kitchen cleanser (e.g., a weak alkali cleanser) may adversely affect painted surfaces.

- We recommend cleaning the drive lens with an air puffer used for camera lenses. Do not use any spray-type of lens cleaning products.



Lens

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.

When using the computer in a high ambient temperature

- When the computer is used continuously in a location with a high ambient temperature, the operation may slow down temporarily because the computer enters a mode for reducing the internal heat generation.
- When writing to DVD is performed continuously in a location with a high ambient temperature, the writing time may lengthen. For this reason, leave an interval of time between DVD writing operations.


Usage Precautions

Backing up and restoring e-mail, etc.

Important data in the hard disk should be backed up regularly.

Refer to  *Reference Manual* “ (Internet)” or “ (E-mail)”.

The export function of NetSelector2 can be used to save the network settings.

→  *NetSelector2*

Regular backups are recommended as a means of minimizing damages in the event of trouble (e.g., in case of failures, unexpected data updates, erasure, etc.).

→ page 79 “Hard Disk Backup/Restore Function”

When the battery indicator does not light on

The AC adaptor's protection function may be working when the battery indicator does not light on even if the AC adaptor and the battery pack are correctly connected with the computer.

Pull out the AC cord and wait for more than 1 minute to reconnect the AC cord.


If the problem persists, contact your technical support office.

When using peripheral devices

Follow these instructions to avoid any damage to the 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.

Carefully read the instruction manuals,

 *Reference Manual*, and the instruction manual of the peripheral devices.

Keep the recovery disc in a safe place



The recovery disc is required in situations such as when reinstallation cannot be performed from the hard disk.

If you want to create this disc, refer to “6 Creating a Recovery Disc” in the supplied *Preparation and Setting Guide*.

About security when using wireless LAN

At the time of purchase, the settings related to wireless LAN security are not configured. Before using the wireless LAN, be sure to configure the settings related to wireless LAN security.

→  *Reference Manual* “ (Wireless)”

In a wireless LAN, instead of using a LAN cable, information is exchanged between the computer and the wireless LAN access point (sold separately) using radio waves. This has the advantage of enabling a network connection within the transmission range of the radio waves.

On the other hand, because the radio waves travel beyond obstructions (such as walls) to a certain degree, the following problems may occur unless the security settings are configured.

- Communicated information may be viewed without permission
Malicious third parties may deliberately intercept the radio waves and steal the communicated information, such as the following.
 - IDs and passwords
 - Personal information, such as credit card numbers
 - Contents of e-mails

- Unauthorized access

Malicious third parties may access private or company computers or networks without authorization and perform actions such as the following.

- Extract personal information or confidential information (information leaks)
- Communicate by impersonating a specific person, and transmit unauthorized information (spoofing)
- Rewrite and transmit intercepted communication information (falsification)
- Transmit computer viruses or other bugs to destroy data or systems (destruction)

To address these problems, security settings are provided for the computer's wireless LAN function and the wireless LAN access point.



Because the settings on the computer must be configured to match your own wireless LAN access point, the security settings are not configured at the time of purchase. Before using the wireless LAN, be sure to configure the settings related to wireless LAN security.

Although configuring the settings related to wireless LAN security reduces the likelihood of problems occurring, the nature of wireless LAN means that it is possible for special methods to be used to view communicated information without permission or perform unauthorized access. Be aware of these issues when using wireless LAN.

We recommend you fully familiarize yourself with the problems that may occur if you use the computer without configuring the security settings, and then configure these settings according to your own judgment and on your own responsibility. If you cannot configure them yourself, contact your technical support office.

About the power-saving settings

In the default settings, this computer is set to power management based on the International ENERGY STAR Program; for example, by operating the power-saving function when the device is not accessed or operated for a certain period of time. This reduces the energy consumption when the computer is not being used.

- Refer to "Changing the time until entering sleep or hibernation or disabling the function" about default settings.
- Refer to  *Reference Manual*  (Using Let'snote)" about resuming from sleep/hibernation.

Sound and Video

- When playing AVI files

If the computer is under a heavy load because many software applications are being operated or the computer is used in a location with a high ambient temperature, the audio or video of AVI files may be interrupted during playback. If this happens, performing the following operations may resolve the issue.

- Close the software application that is not used.
- Use the computer in low-temperature environments.
- Set the power plan to [High performance]. (When using the computer in a location with a high ambient temperature, lower the temperature of the usage environment before setting to [High performance]. If the ambient temperature is high, setting to [High performance] will not resolve the issue.)
- Sound (e.g. MP3, WMA) and video (e.g. MPG, WMV) recorded in PC Cards and SD Memory Cards may be interrupted during playback. If this happens, copy them to the hard disk and play back.

About Notations



This illustration means pressing the Enter key.

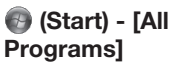


+



This illustration refers to pressing and holding , then pressing .

When using with the and functions interchanged (→ page 52), read with and reversed.



This illustration tells you to click (Start), then to click [All Programs].



This symbol indicates related pages.



This illustration means the on-screen manuals.

- If a user has logged on to Windows without the Administrator Authority, some functions may not be executable, and some screens may not be displayed as shown in this manual. If this happens, log-on to Windows with the Administrator Authority to enable these functions.
- In these instructions, Windows Aero is not set for the screen displays that are used.
- In these instructions, “Genuine Windows® 7 Ultimate 32-bit Service Pack 1” and “Genuine Windows® 7 Ultimate 64-bit Service Pack 1” is indicated as “Windows” or “Windows 7.”
- In these instructions, “optical disc drive” is indicated as “CD/DVD drive”.
- In these instructions, the descriptions vary depending on the connected external display. These displays are classified as follows.
 - An “analog display” is an external display that is connected to the external display port.
 - An “HDMI-supporting display” is an external display (including a television) that is connected to the HDMI port.

- In these instructions, the names and terms are referred as follows.
 - “CyberLink PowerDVD” as “PowerDVD”
- Refer for the latest information about optional products to the catalogs, etc.
- About “Reinstallation”

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

When reinstallation procedure is performed, the contents of the hard disk will be erased.

Be sure to back up data on your hard disk to another media or to an external hard disk before running the reinstallation procedure.

Refer to “Reinstalling Software”. (→ page 81)

How to Use the On-screen Manual







The following manuals are saved in the computer's hard disk. To view the manual, start up the computer after completing the Windows setup. (→ *Preparation and Setting Guide*)

How to access the *Reference Manual/Troubleshooting*

1 Double-click on the desktop.

Click [Reference Manual] to view the *Reference Manual*.

Click [Troubleshooting] to view the *Troubleshooting*.

- Double-click  (Tips for using the battery, etc.) on the desktop to display  *Reference Manual* “ (Battery).”
- Double-click  (About security) on the desktop to display  *Reference Manual* “ (Security).”

How to access the *NetSelector2*

The *NetSelector2* will provide you with the helpful information on how to use NetSelector2.

1 Click (Start) - [All Programs] - [Panasonic] - [NetSelector2] - [About NetSelector2].

How to access the *Hard Disk Handling*

The *Hard Disk Handling* will provide you with the helpful information on how to use the hard disk.

1 Click (Start) - [All Programs] - [Panasonic] - [On-Line Manuals] - [Hard Disk Handling].

How to access the *Installation Manual of Trusted Platform Module (TPM)*

The *Installation Manual of “Trusted Platform Module (TPM)”* will provide you with the helpful information on how to use the Embedded Security (TPM).

1 Double-click on the desktop.

2 Click [Reference Manual] - [(Security)], and then click [Protecting and Encoding Data].

3 Click [Using Embedded Security (TPM)], read the description carefully, and then display the *Installation Manual of “Trusted Platform Module (TPM).”*












How to access the Windows Help

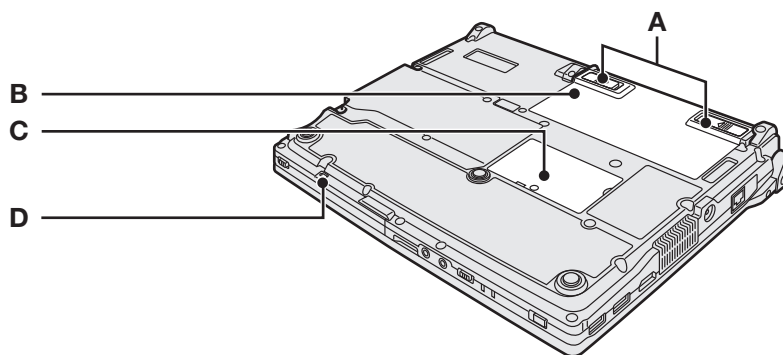
1 Click (Start) - [Help and Support].



Preparations



Preparations

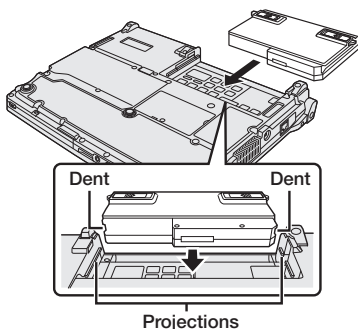
Names		Functions/Reference
J	USB 3.0 Port 	Connect the USB cable. This port is compatible with USB 1.1/2.0/3.0. →  Reference Manual "  (Peripheral)"
K	PC Card Slot	→  Reference Manual "  (Peripheral)"
L	SD Memory Card Slot 	The slot only accepts SD/SDHC/SDXC memory cards. →  Reference Manual "  (Peripheral)"
M	Drive Power/ Open Switch OFF/ON 	<ul style="list-style-type: none"> Slide the switch to the right to open the disc cover. (This works only when the power is on.) Each time you slide the switch to the left, the drive power will turn on or off. (This works only when Windows has started up.)
N	CD/DVD Drive	→ page 41,  Reference Manual "  (CD/DVD Drive)"




A	Battery Latches	These latches are locked automatically when inserting the battery pack properly.
B	Battery Pack	→  Reference Manual "  (Battery)" Follow the procedures below to insert/remove the battery pack.
C	RAM Module Slot	Insert the RAM module. → page 46
D	Emergency Hole	To remove a disc when the disc cover cannot be opened or when the computer is powered off, insert a pointed object (e.g., the bent-out tip of a paper clip, or the tip of a ballpoint pen) into the emergency hole. → page 43

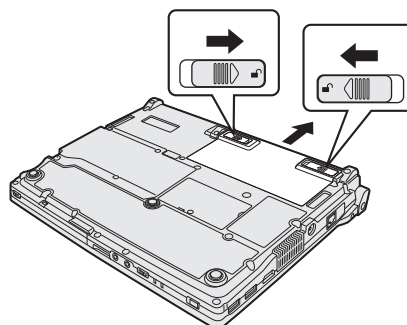
● To insert

Slide the battery pack in parallel with the arrow direction and attach it so that the left and right dents on the new battery pack match the projections of the computer.

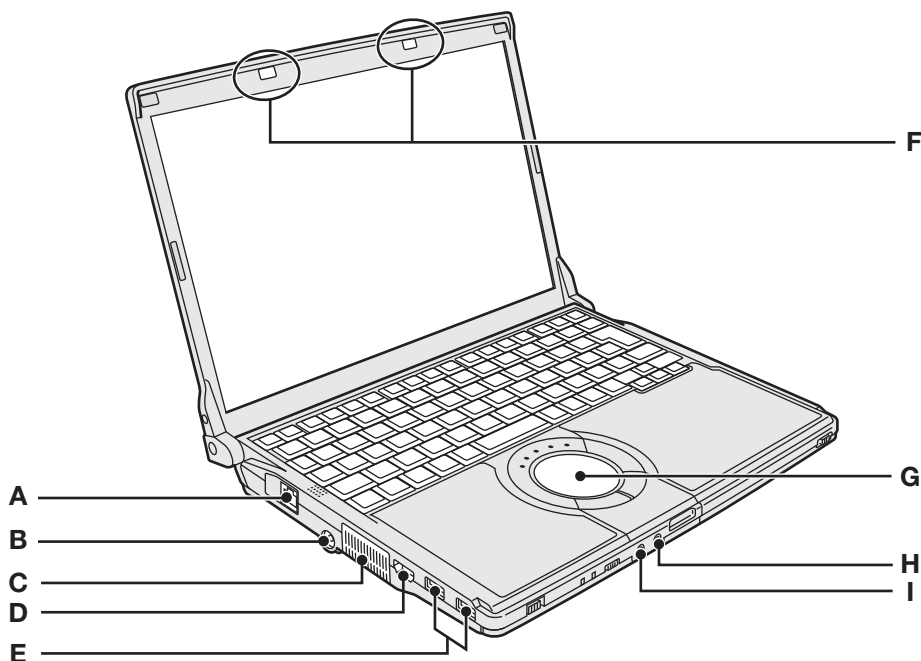





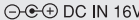














● To remove

Slide both the left and right latches to the unlocked position , and push out the battery pack in parallel with the computer.

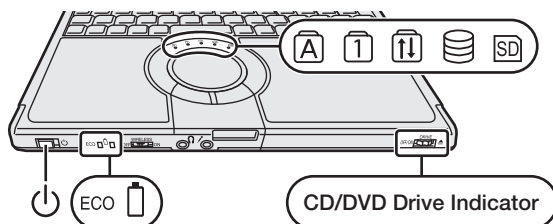


Names and Functions of Parts



Names		Functions/Reference
A	LAN Port 	Connect the LAN cable. →  <i>Reference Manual</i> “  (Internet)”
B	DC-IN Jack 	Connect the AC adaptor.
C	Ventilation Hole (Exhaust)	Releases internal heat.
D	HDMI Port 	Connect the HDMI display (Television etc.) →  <i>Reference Manual</i> “  (Peripherals)”
E	USB 2.0 Ports 	Connect the USB cable. These ports are compatible with USB 1.1/2.0. →  <i>Reference Manual</i> “  (Peripherals)”
F	Wireless Antenna (built-in)	This computer has a built-in antenna for wireless communications. →  <i>Reference Manual</i> “  (Wireless)”
G	Touch Pad	→ <i>Preparation and Setting Guide</i> →  <i>Reference Manual</i> “  (Touch Pad)”
H	Microphone Jack 	Use only a condenser microphone. Using an input source other than a condenser microphone may not allow audio to be input or may damage the computer. <ul style="list-style-type: none"> When using a monaural microphone with a 2-terminal plug: Click  (Start) - [Control Panel] - [Hardware and Sound] - [Sound] - [Recording] - [Microphone] - [Properties], and then add a check mark for [Mono Microphone] in [Enhancements]. When recording in stereo using a stereo microphone after following the above steps: Click  (Start) - [Control Panel] - [Hardware and Sound] - [Sound]- [Recording] - [Microphone] - [Properties], and then remove a check mark of [Mono Microphone] in [Enhancements].
I	Headphone Jack 	You can connect headphones or amplified speakers. When they are connected, audio from the internal speaker is not heard.





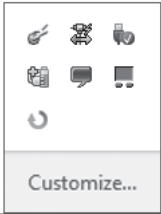


Status Indicator Lamps








































Names		Status/Reference
Power indicator		<ul style="list-style-type: none"> • Not lit: Power off / Hibernation mode • Green: Power on • Blinking green: Sleep mode <p>The brightness of the power indicator changes in keeping with the brightness level of the internal LCD (default setting). If you set [LED Brightness] to [Dimmer], the brightness remains dark and does not vary.</p>
Economy Mode (ECO) indicator	ECO	<p>This indicator will indicate the Economy Mode (ECO) status (Disabled/Enabled).</p> <ul style="list-style-type: none"> • Not lit: Economy Mode (ECO) disabled • Green: Economy Mode (ECO) enabled • Blinking green: Economy Mode (ECO) enabled (Discharging until the remaining battery power is 80 % or less)
Battery indicator		<ul style="list-style-type: none"> • Not lit: Battery pack is not connected or no charging. • Orange: Charging in progress. • Green: Fully charged. • Red: The battery level is very low (the charge is approx. 9 % or less). • Blinking red/Blinking orange: Refer to “The battery indicator is blinking” of “Problems with Battery” (→ page 70)
Caps Lock indicator		<p>This indicator lights green when is pressed: Subsequent non-shifted input is capitalized.</p>
NumLk indicator (Ten-key mode)		<p>This indicator lights green when is pressed: Part of the keyboard (see figure below) will function as a ten-key numeric input. To disable, press once more (the indicator will turn off).</p> <div style="text-align: center;"> <p>Ten-key mode</p> </div> <p>The functions differently depending on the Sleep application.</p>
ScrLk indicator (Scroll lock)		<p>This indicator lights green when + (ScrLk) are pressed: Scroll lock functions differently depending on the software application.</p>
Hard disk/CD/DVD access indicator		<p>This indicator lights when the hard disk drive or CD/DVD drive is accessed.</p>
SD memory card indicator		<p>This indicator lights when the SD/SDHC/SDXC memory card is accessed.</p>
CD/DVD drive indicator		<ul style="list-style-type: none"> • Not lit: Drive power is off or the disc cover is opened. • Green: Drive power is on. <p>How to switch the drive power on/off: → Reference Manual “ (CD/DVD Drive)”</p>



























Screen Display

The screen displayed first when powering on the computer and logging on to Windows, is called the “desktop.”

Display examples	Names	Functions
  etc.	Icons on the desktop	When you double-click icons, the software application will run and the window will open.
	[Start] button (see the bottom left on the screen)	When you click  (Start), the menu will be displayed. Select the software application, etc. that you want to use from the menu, and click it.
 Customize...	Notification area (see the bottom right on the screen) Click the  icon to display all icons.	Each displayed icon has its own role, and is useful when setting functions or checking the status. Only some of the icons are displayed in the notification area. If the icon on the notification area being explained in this manual is hidden and not displayed, click the  icon to display all icons. (The notification area icons used in this manual are only examples. The actual display of the order and types of icons may differ depending on your computer environment (various function settings, devices connected, etc.)).

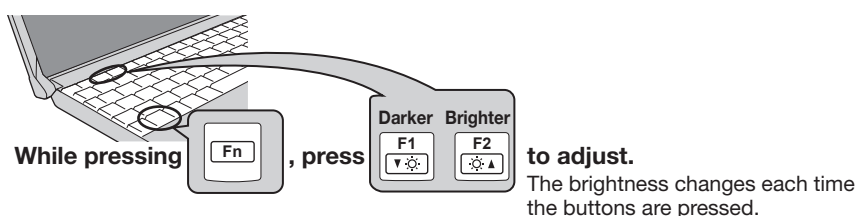
Icons on the Notification Area (click the icon to display all icons.)

Icons	Names and roles
 or 	Speaker icon (Set volume)
 etc.	Network connection icon (Use to set LAN/wireless LAN connections) →  <i>Reference Manual</i> “  (Internet)” and “  (Wireless)”
 or 	Battery meter icon (The  is displayed when connecting the AC adaptor. Use to make various power option settings) →  <i>Reference Manual</i> “  (Battery)”
 or 	Windows action center icon (Use to make or confirm security settings) →  <i>Reference Manual</i> “  (Security)”
 or 	Wireless icon (Use to confirm the status of the wireless function and to switch IEEE802.11a between enable/disable.) →  <i>Reference Manual</i> “  (Wireless)”
 or 	Pointing device icon (Use to make various touch pad settings)
 or 	Touch Pad utility icon (Use to make settings and confirm status for the Touch Pad utility) →  <i>Reference Manual</i> “  (Touch Pad)”
	Realtek HD Audio Manager icon (Use to make various sound settings)
	Power Plan Extension utility icon (Use to switch power plan and make various power saving settings) →  <i>Reference Manual</i> “  (Using Let'snote)”
  	PC Information Popup icon (Display information of the battery pack and hard disk) →  <i>Reference Manual</i> “  (Using Let'snote)”
	NetSelector2 icon (Use to switch to settings suitable for the connected network) →  <i>Reference Manual</i> “  (Internet)”

Icons	Names and roles
	Projector Helper icon (Use to switch the display mode, and save or restore screen settings) →  <i>Reference Manual</i> “  (Software Application)”
 or  etc.	Peak Shift Control Utility icon (Use to enable or disable peak shift control, and display the setting screen) →  <i>Reference Manual</i> “  (Using Let'snote)”
 or 	Hotkey icon (It is only displayed when adding the checkmark for [Show status on screen] on the [Hotkey Settings] screen. Use to confirm whether  is locked) →  <i>Reference Manual</i> “  (Keyboard)”
	Loupe icon (It is only displayed when running the Loupe utility. Use to display the enlarged display window and mark settings for Loupe utility) →  <i>Reference Manual</i> “  (Using Let'snote)”
 or 	USB Keyboard Helper icon (Displayed only when USB Keyboard Helper has been set up. Changes to numerical keypad mode when a USB keyboard is connected.) →  <i>Reference Manual</i> “  (Peripherals)”
	Display Helper icon (Displayed only when Display Helper has been set up. Use when an external display is connected to operate the window in extended desktop mode.) →  <i>Reference Manual</i> “  (Peripherals)”
	Optimized view icon (Displayed only when Optimized view has been set up. Use to display the Optimized view display, expand to a full-screen display, or configure the settings for Optimized view.) →  <i>Reference Manual</i> “  (Using Let'snote)”
	Intel(R) My WiFi Technology icon

Adjusts the LCD Brightness

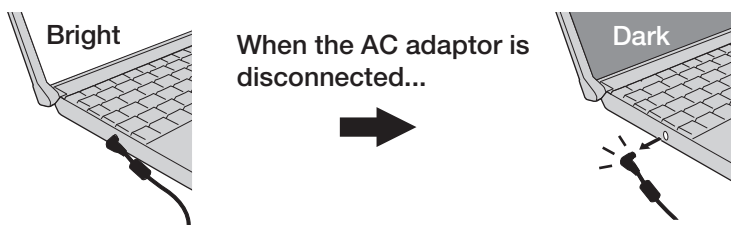
Making the display brighter shortens the battery operating time.




If the screen becomes darker after disconnecting the AC adaptor

In the default settings, the screen becomes darker when the AC adaptor is not connected.

Less power is consumed when the screen is darker, making this setting suitable for use with the battery.





The computer has different set brightness levels for when the AC adaptor is connected and for when it is not connected. The brightness levels can also be set in the power plans. (Can be set individually in each power plan.) When the brightness is adjusted with , the brightness set in the power plan is also changed at the same time.

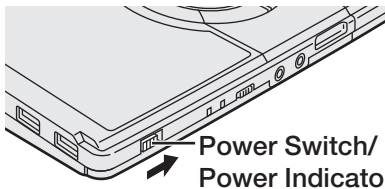
For detailed information, refer to  *Troubleshooting*.

Starting Up/Shutting Down

Starting Up

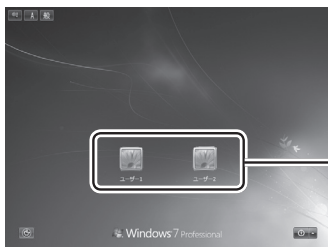
For operating procedures from the time of purchase to the start of first Windows operations, refer to *Preparation and Setting Guide*.

- 1 Slide and hold the power switch  until the power indicator  lights.



- While booting, avoid the following until the access indicator has turned off.
 - Connecting or disconnecting the AC adaptor.
 - Touching the power switch.
 - Performing any keyboard, touch pad, or external mouse operations.
 - Closing the display.
 - Sliding the drive power/open switch.
 - Connecting/disconnecting the SD/SDHC/SDXC memory card.


- 2 Log-on to Windows.



Click the user (user's icon).

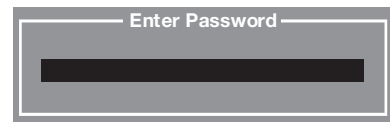
- When the password is set, the screen shown below will be displayed.




Input the password, then click . Until the correct password is entered, the computer will not operate.

Confirm that character input is not set to "Caps Lock" or "NumLK." (→ page 23).

The screen shown below is displayed after turning on the computer.



To prevent unauthorized access of your computer, the Supervisor Password or the User Password has been set.



Enter your password and press . When the correct password is input, the computer will start.

After 3 wrong password attempts have been made or there is no input for one minute, the computer will power off.

If the screen display disappears...

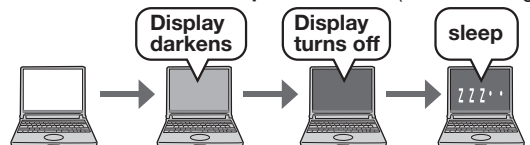
Because the power-saving setting is configured at the time of purchase, if the computer is not operated or devices are not accessed for a certain period of time, the power-saving function operates and the screen display may become darker or disappear.

Operate the touch pad or keyboard to return the screen to its original status.

Press a key that will not affect your work (such as  or ).

If the computer is not operated, it will enter sleep. Slide the power switch to return the screen to its original status. (→ page 40)

If no access for a certain period of time (default setting)



If power is cut in sleep mode, all data is lost. We recommend connecting the AC adaptor if the sleep function is to be used.

To reduces the wait time between the time you turn on the computer and the time Windows launches

You can reduce the Windows startup time after turning on the computer by using Quick Boot Manager to set [Boot Mode] to [Fast] in the [Boot] menu of the Setup Utility or change the Windows settings.

→  Reference Manual  (Using Let'snote®)

Shutting Down (power off your computer)

1 Save necessary data and close each application.

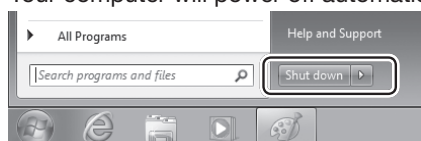
2 Power off your computer.

When using the touch pad.

① Click  (Start).

② Click [Shut down].

Your computer will power off automatically.





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

When using the keyboard.

① Press , , and click [Shut down].

② Press [Enter].

You can display the shutdown screen by pressing  + .





3 Close the display only after confirming the power indicator is not lit.

CAUTION

- **Do not do the following during the shutdown procedure.**
 - Connecting or disconnecting the AC adaptor.
 - Touching the power switch.
 - Performing any keyboard, touch pad or external mouse operations.
 - Closing the display.
 - Sliding the drive power/open switch.
 - **Once the computer is powered off, you must wait at least ten seconds before powering it on again.**
 - **If you will not use for a long time**
 - To save power, turn off the computer and disconnect the AC adaptor from the power outlet (if you leave the computer connected to the power outlet, the AC adaptor itself will consume up to 0.3 W of power).
 - Note that the computer consumes electricity even when the computer is turned off. If you have not used the computer for a long time, charge the battery pack before the next use, or use the AC adaptor.
- The battery charge retention times are shown in the table below.

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

If you use the “Sleep” or “Hibernation” function, then when you turn on the power next time, the software application and files you were using before will be displayed, and you can restart the same operations. (→ page 38)

- Press  +  to put your computer in the sleep mode.
- Press  +  to put your computer in the hibernation mode
- Slide the power switch to resume from the sleep/hibernation mode.

● Battery Charge Retention Times

Battery Type	Battery Pack	Lightweight Battery Pack
In sleep	Approx. 7 days (If “LAN Wake Up function” is enabled: 5 days)	Approx. 3.5 days (If “LAN Wake Up function” is enabled: 2.5 days)
	(When all power has been consumed in sleep mode, all data is lost.)	
In hibernation	Approx. 40 days (If “LAN Wake Up function” is enabled: 10 days)	Approx. 20 days (If “LAN Wake Up function” is enabled: 5 days)
When power is off	Approx. 40 days (If “Power On by LAN” is enabled: 10 days)	Approx. 20 days (If “Power On by LAN” is enabled: 5 days)

Even if “LAN Wake Up function” is enabled, the battery will discharge at a slightly slower rate if the LAN cable is not connected.

For detailed information, refer to  *Reference Manual*  (Using Let'snote)

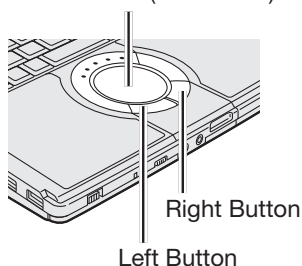
Using the Touch Pad

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

For information on how to use the touch pad, refer to *Preparation and Setting Guide*.


Depending on your network environment, it may take approx. 1 minute to start up touch pad utility.

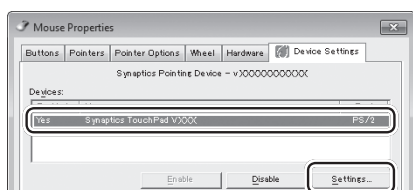
Work Surface (Touch Pad)



Adjusting the Sensitivity when Touching the Touch Pad

You can set the touch pad to make it easier to use by adjusting the 2 sensitivities of “PalmCheck™” and “Touch Sensitivity.”

- 1 Click  (Start) - [Control Panel] - [Hardware and Sound] - [Mouse].
- 2 Click [Device Settings].
- 3 Click the device name (e.g. Synaptics TouchPad) in [Devices], then click [Settings].



- 4 Double-click [Pointing], double-click [Sensitivity], and click [PalmCheck] or [Touch Sensitivity].

● PalmCheck™

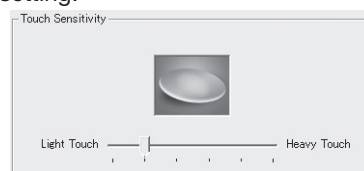
When operating the keyboard, if your hand touches the touch pad unintentionally causing the cursor to move, adjust the sensitivity using “PalmCheck™.”



- By dragging slide bar to the [Maximum] position, you can prevent the cursor from moving unintentionally.
- By dragging slide bar to the [Minimum] position, you can enable the cursor to move even with a light touch of the palm on the touch pad.

● Touch Sensitivity

When operating the touch pad, if your finger touches the touch pad, unintentionally causing the cursor to move; or if the cursor does not move even when you move your finger on the touch pad, adjust the sensitivity using the “Touch Sensitivity” setting.




- When slide bar is dragged to the [Heavy Touch] position, the cursor will only move with a strong touch on the touch pad.
 - When slide bar is dragged to the [Light Touch] position, the cursor will move even with a light touch on the touch pad.
- 5 After making the adjustment, click [OK].
 - 6 Click [OK] at [Mouse Properties].

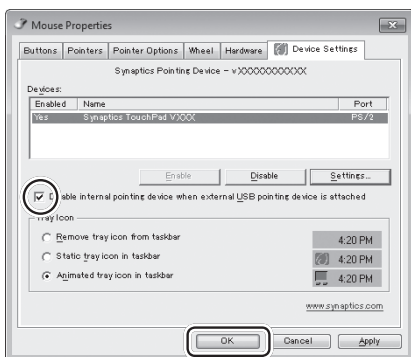
Switching to Enable/Disable the Touch Pad

You can switch the touch pad to be enabled or disabled by linking it to the insertion and removal of the USB mouse.

CAUTION

- In the following cases, this function does not operate and the touch pad is enabled even when the USB mouse is connected.
 - Immediately after Windows is started up
 - During the user switching screen or lock screen is displayed.
- When a USB keyboard is connected that has a built-in PS/2 port for a mouse connection, the touch pad is disabled even if a mouse is not connected to the USB keyboard.
- Even if a check mark is added to [Activate Touch Pad function] in the "Touch Pad Utility settings" screen, the touch pad and scroll function cannot be used when the USB mouse is connected.
- This function may not operate depending on some USB mouse.

- 1 Click  (Start) - [Control Panel] - [Hardware and Sound] - [Mouse].
- 2 Click [Device Settings].
- 3 Add the check mark for [Disable in internal pointing device when external USB pointing device is attached] and click [OK].




Handling the Touch Pad

By design, the touch pad is to be used with a fingertip only.

- Do not place any object on the work surface or press down forcefully with sharp-pointed objects (e.g., nails) or hard objects that can leave marks (e.g., pencils and ball point pens).
- Try to avoid having any harmful substances, such as oil, come in contact with the touch pad. The cursor may not work properly in such cases.
- When the touch pad becomes dirty: Wipe to remove dirt by using a dry soft cloth such as gauze or a soft cloth first applied with detergent diluted with water and then thoroughly wrung.
- Do not use benzene or thinner, or rubbing alcohol. Doing so may adversely affect the surface, e.g., discoloration. In addition, do not use commercially available household cleaners and cosmetics, as they may contain components harmful to the surface.

NOTE

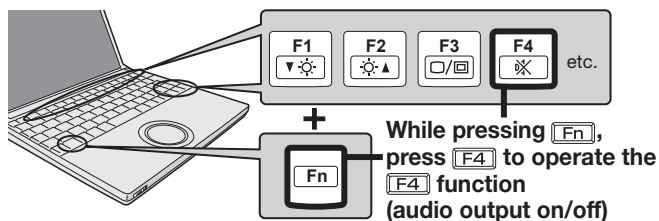
You can change the speed of the double-click or the operations of mouse buttons by clicking  (Start) - [Control Panel] - [Hardware and Sound] - [Mouse].










Using the Fn Key

For detailed information, refer to  *Reference Manual* “ (Keyboard)”.

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

- When using with **[Fn]** and **[Ctrl]** functions interchanged (→ page 52): Press **[Ctrl]** instead of **[Fn]** for the desired Fn function.



Key	Functions	Pop-up Window
[Fn] + [F1] [Fn] + [F2]	Pressing this key combination adjusts the LCD brightness. [Fn] + [F1] (down) / [Fn] + [F2] (up)	
[Fn] + [F3] or [C] + [P] (After Windows startup)	Pressing this key combination displays the screen on the right, and if an external display is connected, the screen display mode can be switched (after pressing [Fn] + [F3] and selecting the display mode, the screen may not switch until [Enter] is pressed). The screen cannot be displayed on 3 displays at the same time.	 When the screen is displayed on an external display, [Disconnect Projector] is displayed.
[Fn] + [F4]	Pressing this key combination turns on/off audio from the internal speaker and headphone jack. Turning off the speaker will also turn off the warning beep.	 ON  OFF (MUTE)
[Fn] + [F5] [Fn] + [F6]	Pressing this key combination adjusts the volume of the internal speaker and headphone jack. [Fn] + [F5] (down) / [Fn] + [F6] (up))	
[Fn] + [F7]	Pressing this key combination puts the computer into sleep mode.	—
[Fn] + [F8]	Pressing this key combination enables the restoration of the screen settings (such as the display mode and the screen resolution and refresh rate) that were saved using Projector Helper. Select the settings to be restored in the displayed “Projector Helper” screen, and then click [OK].	—
[Fn] + [F9]	Remaining capacity of the battery pack.	 When the battery pack is inserted. (example)  When the battery pack is not inserted.  When the battery's Economy Mode (ECO) is enabled,  is displayed.
[Fn] + [F10]	Pressing this key combination puts the computer into hibernation mode.	—
[Fn] + [NumLk]	The functions differ depending on the software application being used.	—
[Fn] + [Home]	Lead to the last page or moves the cursor to the end of the current line (End)	—
[Fn] + [Up Arrow]	Move the previous page (PgUp)	—
[Fn] + [Down Arrow]	Move the next page (PgDn)	—

Security Measures

For detailed information, refer to  *Reference Manual* “ (Security)”.

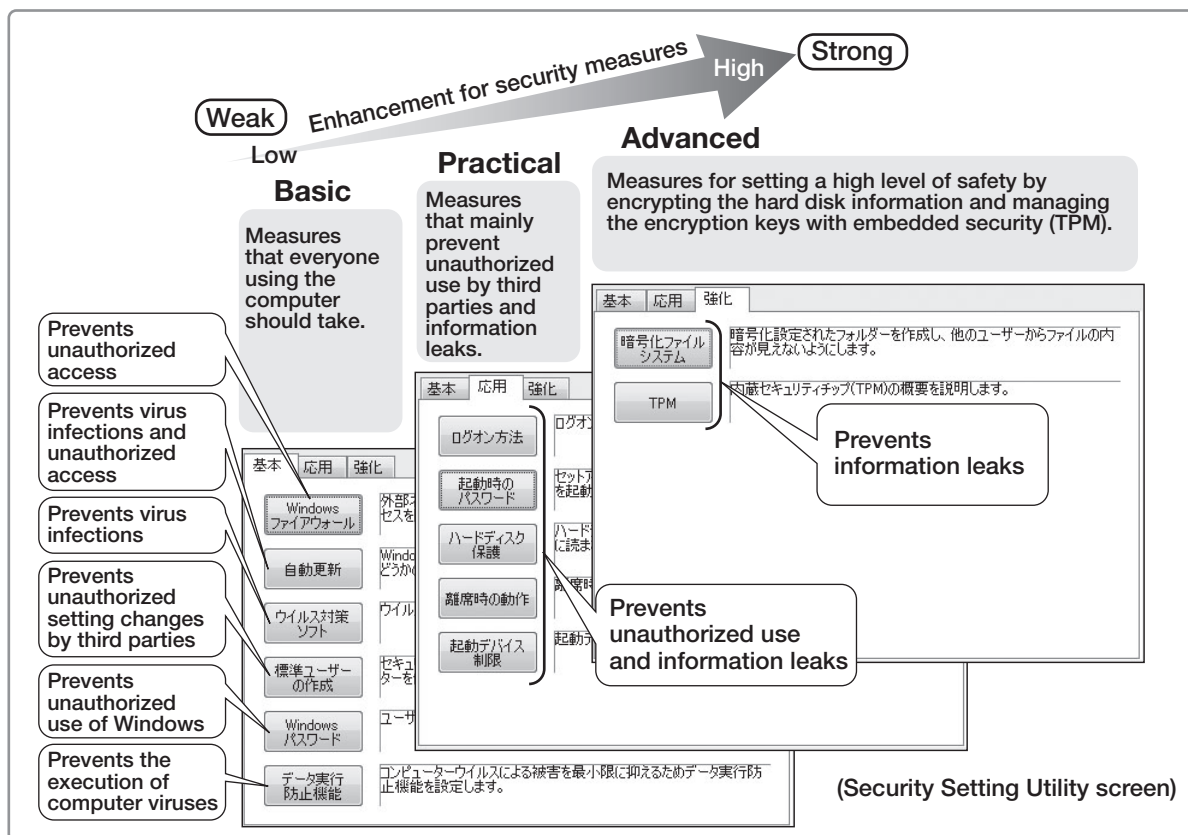
● Precautions for the security function

- Settings related to security, such as the passwords you set yourself, cannot be canceled by your technical support office, or anyone else at Panasonic. Be sure not to forget settings such as passwords.
- To prepare for unexpected problems or trouble, such as not being able to start up the computer or a virus infection after accessing the Internet, we recommend that you back up your valuable data and store it in a safe place.
- Panasonic takes no responsibility whatsoever for damage caused by problems such as information leaks or virus infections.

Step-by-step security measures

This section describes the “Basic,” “Practical,” and “Advanced” steps that you should take as security measures according to your environment and usage. The more steps you take the higher the safety level.

- From the “Basic,” “Practical,” and “Advanced” security measures, set the combination that you require.
- You will not set a high safety level just by encrypting data as described in “Advanced.” Be sure to combine this setting with the “Basic” and “Practical” security functions.
- If the network administrator at your company has issued instructions about the settings or other issues, follow these instructions. The information described in this document is not necessarily appropriate for all environments.



Configuring settings in the Security Setting Utility

This computer has a Security Setting Utility that enables various security functions to be centrally managed and settings to be easily configured. Settings that are important for security, such as the password required when starting up and the Hard Disk Lock, cannot be canceled from the Security Setting Utility. To cancel these settings, use the Setup Utility. (→ page 49)

Some setting items can be saved for future use. This enables you to restore previous settings, or switch a group of security settings in accordance with the computer usage conditions. You can also import the settings saved with the Security Setting Utility of other computers to use the same security settings in this computer.



NOTE

- While using the Security Setting Utility, do not individually set or change the functions that can be set in the Security Setting Utility.
- About creating a Windows password and standard user
When the Windows security is set to a high safety level or different security software is used, specific conditions (such as number of characters and difficulty level) may be required for the password or user account to be created.
- When entering the password, be careful of the difference between upper case and lower case.
- If you press **[Caps Lock]** to set the caps lock or **[NumLk]** to enable the numeric keypad mode, you may set a password that is different from the one you intended.
- Some user accounts may not be displayed, depending on the Windows system settings.
- The Security Setting Utility cannot be used if your computer or account has joined a domain.

1 Click (Start) - [All programs] - [Panasonic] - [Security Setting Utility] - [Security Setting Utility].

To set or change items that are important for operating Windows, log on with an administrator's user account.

If you log on as a standard user or the required settings have not been set, the unavailable items are grayed and cannot be set or changed.



NOTE

If the Security Setting Utility is not displayed, install with the following procedure.

① Click (Start), input "c:\util\secutil" in [Search programs and files], and press [Enter].

② Right-click [setup] and click [Run as administrator].

If there are 2 or more files called [setup], right-click the file with [Application] displayed in [Type].

③ If [User Account Control] is displayed, click [Yes].

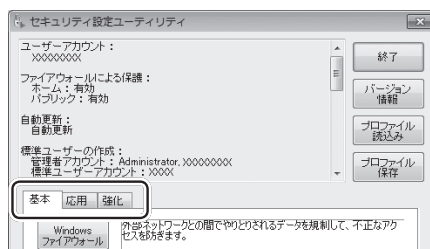
A standard user needs to enter an administrator password.

Follow the on-screen instructions.

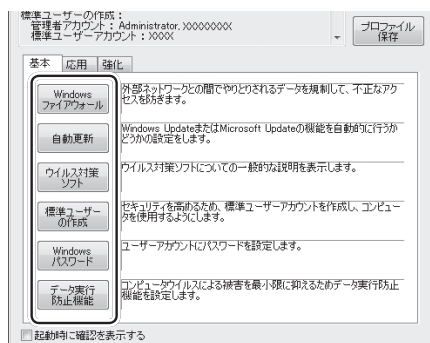
2 Read the information in the "Confirm Before Use" screen carefully, and then click [Yes].

If you click [No], you cannot use the Security Setting Utility.

3 Select the security to be set from [Basic], [Practical], and [Advanced].



4 Click the item to be set.



When [Windows Firewall] is clicked, the following screen is displayed.



Follow the on-screen instructions.

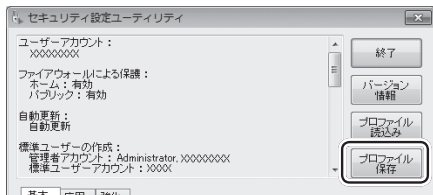
5 After completing the settings, click [Finish].

Security Measures

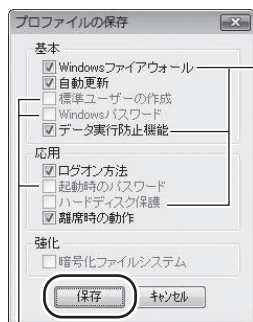
Saving the security settings

You can save the current settings.

1 Click [Save Profile].



2 Add a check mark to the items to be saved and click [Save].

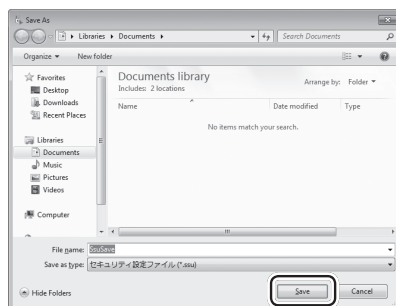


The Windows firewall, data execution prevention function, and Hard Disk Lock can only be selected if they have been enabled.

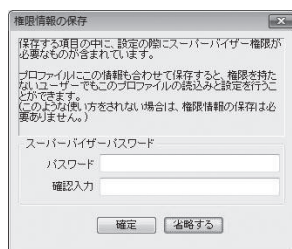
The standard user creation, Windows password, and startup password can be selected if they have been set or changed.

- Items that cannot be saved are grayed.

3 Select the folder to be saved, and click [Save].



If an item is saved that requires a supervisor password when setting functions, the following screen is displayed.

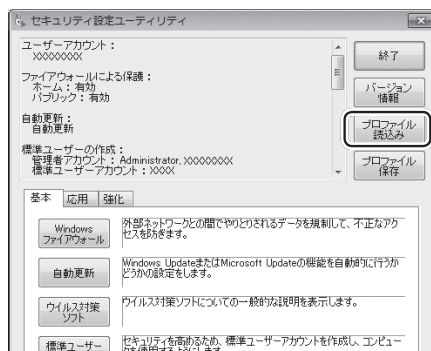


- If you enter the supervisor password and click [Confirm], the supervisor password is saved in the profile. Password entry is not required when importing the profile.
- If you click [Skip], security settings such as the password are not saved in the profile. Password entry is required when importing the profile.

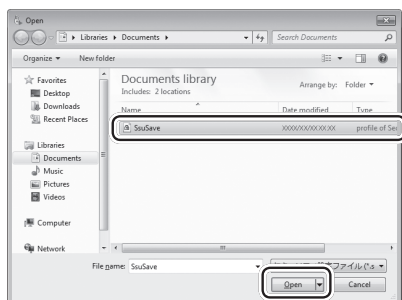
Importing security settings

You can import settings to use them in the security settings.

1 Click [Import Profile].



2 Select the file to be imported and click [Open].

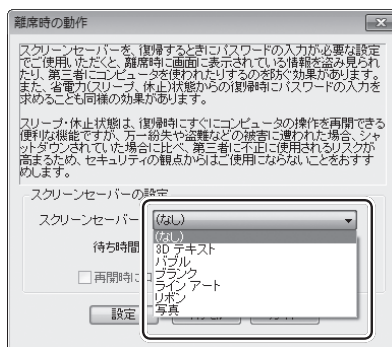


If [User Account Control] is displayed, click [Yes].

- The settings are imported.
If [Skip] is clicked in the “Save Permission Information” screen when saving the settings, when these settings are imported, the entry screen for the supervisor password is displayed.
- The execution results are displayed on the screen.

NOTE

- You can also import settings without starting up the Security Setting Utility. The execution results are not displayed if the importing and setting are performed correctly.
- Double-click the file containing the saved settings in Explorer.
- Specify with an argument when starting up the Security Setting Utility (for network administrators).
Wild cards cannot be used.
- About the screensaver set in [Operation When Away]
The screensavers installed in the Windows system folder are displayed in a list. Select an ID or file name that is displayed in the list.



CAUTION

- Settings that cancel the following functions cannot be saved for security reasons.
 - Windows Firewall
 - Execute-Disable Bit Capability
 - Hard Disk Lock
- A startup password (supervisor or user password) that has already been set cannot be changed when a profile is imported.
- The following functions require a supervisor password to be entered when they are set in the Security Setting Utility.
 - Execute-Disable Bit Capability
 - Hard Disk Lock
- The following functions require logging on to an administrator's user account before setting in the Security Setting Utility.
 - Windows Firewall
 - Automatic updating
 - Standard user creation
 - Logon method
- When multiple folders encrypted with the Encrypting File System are created, only the information for the folder created last is saved.
- The import results are saved in a file called ssulog.txt in the “Documents” folder.

Battery Power

For detailed information, refer to  *Reference Manual* “ (Battery)”.

Operating Time

The battery operating time varies greatly depending on how the computer is used and the usage environment.

This computer uses the “JEITA Battery Run Time Measurement Method (Ver. 1.0)” (henceforth called “JEITA Measurement Method”) of the JEITA as a measurement method that allows comparison with other manufacturers.

CAUTION

The values based on the JEITA Measurement Method that are used in this document and other catalogs are measured when the power consumption is minimized, for example by making the screen darker. If the computer is used with a brighter screen or with many applications running at the same time, the battery operating time will be shorter than the operating time derived from the JEITA Measurement Method.


Measurement method for battery operating times

The value measured using the JEITA Measurement Method is the average of the battery operating time measured with the following 2 methods.

● Measured with a computer load (Measurement Method a)

The internal LCD brightness is set to 20 cd/m² or higher, and a specified video file (MPEG1 format) is played back continuously by being read from the hard disk.


Brightness setting method (set to 20 cd/m² or higher)

- ① Click  (Start) - [Control Panel] - [Hardware and Sound] - [Change battery settings].
- ② Click [Change plan settings] of the power plan.
- ③ Click [Change advanced power settings] and double-click [Display].
- ④ Double-click [Display brightness], set 20 % to each item, and click [OK].
(Set to 20 cd/m² or higher by setting to 20 %.)

● Measured without a computer load (Measurement Method b)

The internal LCD brightness is set to the darkest level and the computer is left alone with the desktop screen displayed.







Method for setting the brightness to the darkest level

- ① Click  (Start) - [Control Panel] - [Hardware and Sound] - [Change battery settings].
- ② Click [Change plan settings] of the power plan.
- ③ Click [Change advanced power settings] and double-click [Display].
- ④ Double-click [Display brightness], set 0% to each item, and click [OK].

For the detailed measurement methods, refer to JEITA's website (<http://it.jeita.or.jp/mobile/>).

To lengthen the operating time

The battery operating time can be lengthened with the following operations.

- Switch the power plan to [Panasonic Power Management (Power Saving)].
Lowered performance saves power. The battery operation time becomes longer.
- Reduce the brightness of the internal LCD by pressing  + .
- Turn the CD/DVD drive power off by using the drive power/open switch.
- Use Sleep/Hibernation
When you have to leave the computer, press  +  to set the computer to Sleep or  +  to set to Hibernation.
- Turning off the display's power automatically after a certain period of time.
- When the network communication is not working, turn off the wireless using the wireless switch.
- Disconnect external devices (USB devices, PC cards, external mouse, etc.) that are not being used.
- Do not use software applications that place a significant load on the CPU.

Minimizing battery pack degradation

The battery pack is a consumable item. The battery pack lifetime varies greatly depending on how the computer is used and the usage environment. We recommend the following actions to minimize the battery pack degradation and lengthen its lifetime as much as possible.

- Set Economy Mode (ECO) to “Enable”.
- Charge the battery in a temperature range of 10°C to 30°C.
- Charge the battery no more than once per day.
- Charge the battery while the computer is powered off.

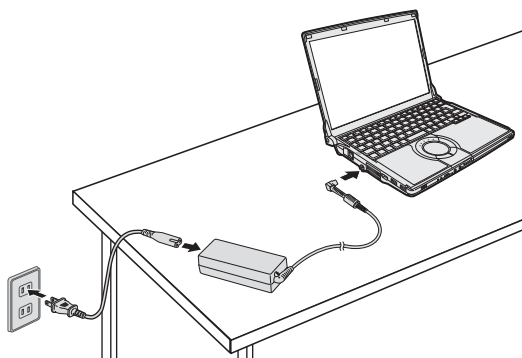
Battery's Economy Mode (ECO)

Economy Mode (ECO) enabled:

Stop the battery recharging at 80% of fully charged. By stopping the battery recharging before 100% (fully charged), the burden on the battery is reduced and deterioration is prevented, so the lifetime of battery pack will be extended. In the default settings, the battery's Economy Mode (ECO) is disabled to prioritize the battery's operating time. If required, switch to the battery's Economy Mode (ECO) to make more efficient use of the battery.

When the AC adaptor is frequently connected

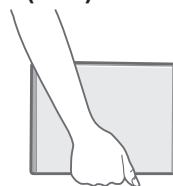
- Economy Mode (ECO) enabled:



- The battery pack degradation is minimized because charging is stopped at 80% of the full charge.
- We recommend this if battery operation is not required for a long time.



When used frequently on the move

- Economy Mode (ECO) disabled:



- Charging up to 100% is possible.
- We recommend this when the battery operating time is prioritized.

Switching the Battery's Economy Mode (ECO)

- ① Click  on the notification area and then click .
- ② Click [Enabled] or [Disabled] in [The battery's Economy Mode (ECO)].

Sleep/Hibernation Functions

When you have to leave the computer, set the computer to Sleep or set to Hibernation. If you use the sleep or hibernation function, you can shut down the computer without closing programs and documents.

Differences between the Sleep and Hibernation Functions

Function	Where data is saved to	Time until resume
Sleep	Memory	Short
Hibernation	Hard disk	Rather long

Function	AC adaptor connection or battery pack installation
Sleep	Required: If power is not supplied, all data will be lost.
Hibernation	Not required: Power is not required to save the data. However, when the AC adaptor is connected or the battery pack is installed, the computer consumes power.

CAUTION

Power is consumed even when the computer is turned off. For the battery charge retention times, refer to page 27.

Changing the time until entering sleep or hibernation or disabling the function

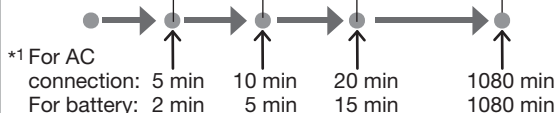
In the default settings, if the computer is not operated or devices are not accessed for a certain period of time, the computer will enter sleep or hibernation. You can change the time until the computer enters sleep or hibernation. You can also change the time until the display turns off.

Default settings

If no access for a certain period of time*1

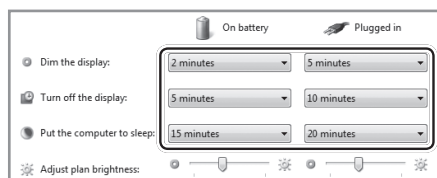
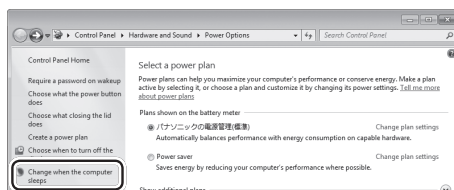
Display darkens Enters sleep

Display turns off Enters hibernation



To change the time before entering sleep, start from step 1. To change the time before entering hibernation, perform step 1 and then proceed from step 5.

- 1 Click or on the notification area and then click [More power options].
- 2 Click [Change when the computer sleeps].
- 3 Set the time for [Dim the display], [Turn off the display], or [Put the computer to sleep].



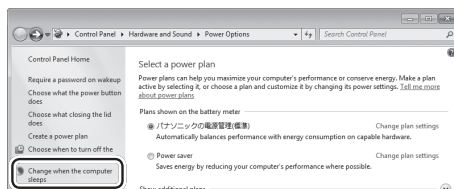
- To stop the display from becoming darker, set [Dim the display] to [Never].
- To stop the computer from entering sleep, set [Put the computer to sleep] to [Never].
- To stop the display power from turning off, set [Turn off the display] to [Never].

- 4 Click [Save changes].

When the time until entering sleep is changed, the time until entering hibernation may change as a result.

Check the time until entering hibernation in the next step.

- 5 Click [Change when the computer sleeps].



6 Click [Change advanced power settings].

7 Double-click [Sleep].

Here, you can also select a power plan to check or change the time until the computer enters hibernation.

8 Double-click [Hibernate after].

9 Click an item, and check or change the time until the computer enters hibernation.

- We recommend setting a time longer than the default setting (1080 minutes). If a shorter value is set, the frequency of transition from sleep to hibernation will increase. Because data is written onto the hard disk when transitioning between statuses, the computer may be exposed to vibration when being carried, resulting in a malfunction. If you set a shorter value, do not carry around the computer.
- To stop the computer from entering hibernation, set the time until entering hibernation to [Never].

10 Click [OK].



NOTE

You can set the time until sleep and hibernation is entered separately for each power plan.

Entering the Sleep or Hibernation Mode

Use any of the following methods to enter the sleep or hibernation mode.

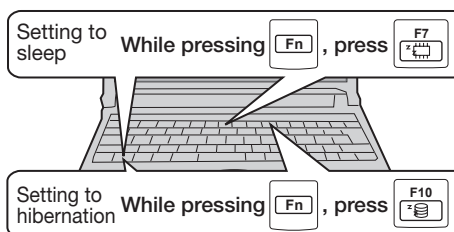
It may take approximately 1 to 2 minutes for the computer to enter hibernation. Nothing is displayed on the screen, but wait and do not perform any operations.



CAUTION

- The computer may enter the hibernation mode by thermal control if you use the computer in a high ambient temperature and use an application that uses a lot of CPU power. Wait a few minutes (at least 5) before turning the computer on again if this occurs.

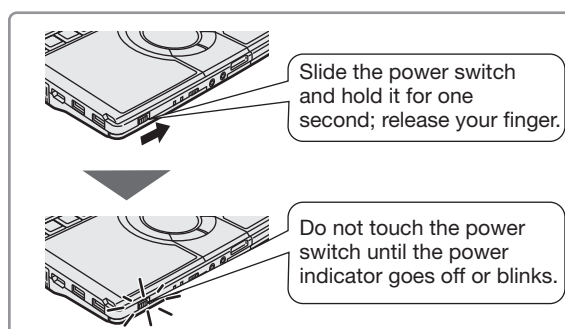
Using **[Fn]**



Using the shutdown screen

Click (Start) - and click [Sleep] or [Hibernate].

Using the power switch



If you continue to slide the power switch and hold it for more than four seconds, the computer will power off. Data not previously saved will be lost. Because the power-saving function is set, there is no beep when you slide the power switch. If you want the beep to sound, refer to

Troubleshooting.


Even if the beep is set to sound, when the speaker function is disabled, for example by pressing **[Fn]** + **[F4]**, there will be no beep sound. Pressing **[Fn]** + **[F5]** will lower the beep sound.

● Changing the setting

You can change the setting so that instead of entering sleep, the computer enters hibernation, shuts down or does nothing.

If [Do nothing] is set, the computer does not enter sleep or hibernation.

Sleep/Hibernation Functions

- 1 Click  (Start) - [Control Panel] - [System and Security] - [Change what the power buttons do].
- 2 Change the setting in [When I press the power button] and click [Save].

Closing the Display


When closing the display, the computer will enter either the sleep or hibernation mode, depending on the setting. (At the time of purchase, the computer is set to go into sleep mode.)

When entering the sleep or hibernation mode, close the display correctly. If you do not (for example, if you open the display soon after you close it), the computer may not enter sleep or hibernation mode.

● Changing the setting

You can change the setting so that instead of entering sleep, the computer enters hibernation, shuts down or does nothing.

If [Do nothing] is set, the computer does not enter sleep or hibernation.

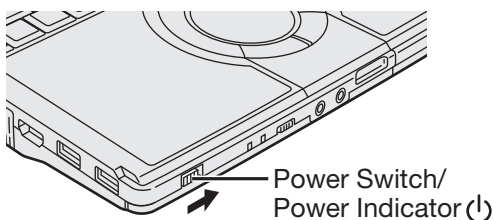
- 1 Click  (Start) - [Control Panel] - [System and Security] - [Change what the power buttons do].
- 2 Change the setting in [When I close the lid] and click [Save].

Resuming Operation (Recovery from sleep or hibernation mode)

Use any of the following methods to resume from standby or hibernation mode.

In the default settings, the Windows password of the logged on user account must be entered when the computer resumes from sleep or hibernation.

Using the Power Switch



Opening the Display



In the following cases, the computer resumes when the display is opened.

- If the display was closed after [When I close the lid] is set to [Sleep] or [Hibernate].
- If the display was closed after the computer enters sleep or hibernation

If you do not want the computer to resume, slide the power switch.



NOTE

- If the computer enters sleep while a USB keyboard or mouse is connected, touching the USB keyboard keys or mouse will resume the computer.
For detailed information, refer to  *Reference Manual* " (Using Let'snote)".
- Do not perform the following operations until resuming is complete. After the display is resumed, wait approximately 15 seconds (normally) or 60 seconds (when the computer is on a network).
 - Shut down or restart Windows.
 - Enter sleep or hibernation.



CAUTION



When [Password On Resume] is set to [Enabled] or [Auto] in the [Security] menu of Setup Utility, the supervisor password or user password must be entered when the computer resumes from sleep or hibernation.

After 3 wrong password attempts have been made or there is no input for one minute, the following actions apply.

(At this time, the power switch cannot be turned off.)

- Failed after resuming from hibernation:
 - Even if the [Panasonic] boot screen is displayed at the next startup, do not start the Setup Utility to change the settings. The computer may not resume correctly from the next time.
 - The computer can no longer be resumed by opening the display or using the LAN Wake Up function or task scheduler.
- Failed after resuming from sleep:
The computer can no longer be resumed using USB devices.

Precautions

Read  *Reference Manual* " (Using Let'snote)" carefully before performing sleep, hibernation and resume operations.

CD/DVD Drive

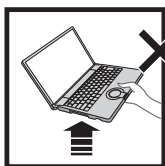
- For details on operating the CD/DVD drive, the disc types supported by this computer, and how to view DVDs, refer to  *Reference Manual* “ (CD/DVD Drive)”.

Locations for Using the Drive

Do not expose the drive to excessive smoke that may leave a residue, e.g., oil smoke, or tobacco smoke.

Doing so can shorten the life of the drive lens.

While the drive is being accessed

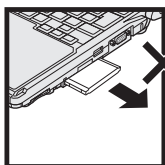


Do not open the disc cover or move the computer while the drive is being accessed.

Doing so could cause the disc to shift position and this may damage the disc, or cause the drive to malfunction.

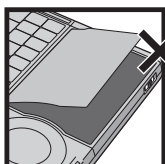


Do not subject the computer while in the midst of writing or rewriting, as this may result in a writing failure.



Do not shock the computer by removing or inserting cables and cards, etc.

This may result in a read or write malfunction.



After running an application involving access to a disc, close the application before opening the disc cover.



Do not apply excessive force to the disc cover.



Do not operate the drive power/open switch.

Connect the AC adaptor if writing operation takes a long time. If the remaining battery power becomes low and the power is not supplied, writing operation may not be completed.

Drive Operation Sounds

In the following cases, the CD/DVD drive makes a motor sound.


- Immediately after turning on the power of the CD/DVD drive (buzzing or whirring sound)
- Immediately after turning on the computer while [Optical Drive Power] is set to [On] in the Setup Utility (buzzing or whirring sound)
- While a CD/DVD is playing back (low rotating sound at a regular intervals)

This is the sound of the CD/DVD drive motor operating, and is not a malfunction.

Operation of the Drive Power/Open Switch

- Immediately after the computer is turned on, if the drive power/open switch of the CD/DVD drive is operated while Windows is starting up, the CD/DVD drive may not be recognized.

If this happens, perform [Scan for hardware changes] with the following procedure.

- ① Click  (Start) - [Computer].
- ② Click [System properties] - [Device Manager].
- ③ If [User Account Control] is displayed, click [Yes].

A standard user needs to enter an administrator password.

- ④ Click the computer name at [Device Manager] and [Action] - [Scan for hardware changes].
- Do not start PowerDVD while the CD/DVD drive is being accessed immediately after the drive power/open switch is closed.

When the CD/DVD Drive Power Is Turned Off

When the drive power is turned off by sliding the drive power/open switch, the message “The ‘MATSHITA DVDXXXXXXXX’ device can now be safely removed from ...” will appear, but the CD/DVD drive is an internal device, so it cannot be removed.

Inserting/Removing a Disc

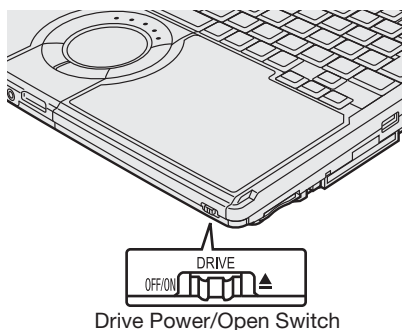
1 Turn on the computer and slide the drive power/open switch to the right.

If the [Optical Drive] in the [Advanced] menu of the Setup Utility is set to [Disabled], you cannot use the drive power/open switch.

It will take some time for the drive power to turn on, and for the disc cover to open. Wait for a moment.

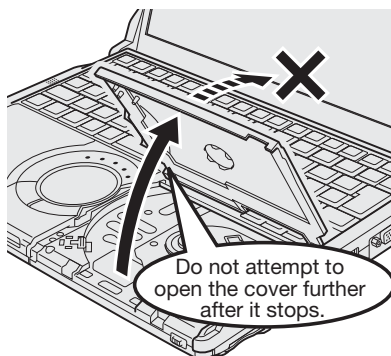
A "beep" will sound, and the disc cover will open slightly. It will take some time for the disc cover to open. Wait for a moment.

(When the speaker function is disabled, e.g., by pressing **[Fn] + [F4]**, there will be no sound. By pressing **[Fn] + [F5]**, there will be lower sound.)



2 Raise the disc cover a little.

- The disc cover can be opened up to an angle that will automatically open to this maximum open position. Do not attempt to force it open any further.
- If the disc cover cannot open if a hand is on the disc cover or the display is closed, the drive will not be accessed correctly. In this case, open and close the disc cover once or restart the computer.

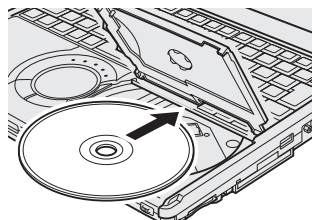


3 Insert/Remove a disc.

When inserting or removing a disc, be careful not to touch the lens and other parts of the laser pickup.

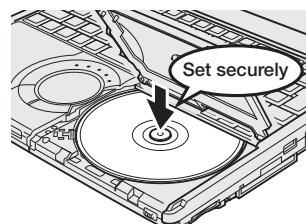
● To insert

- ① With the title side of the disc facing up, insert the disc under the keyboard. Do not use deformed discs.



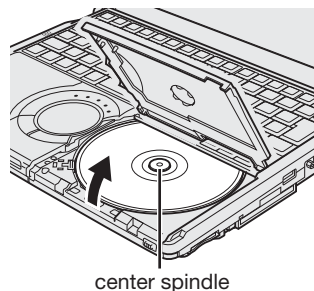
- ② Push down on the center of the disc until it clicks in place.

Insert the disc securely. If the disc cover is closed without securely inserting the disc, the disc may be damaged.



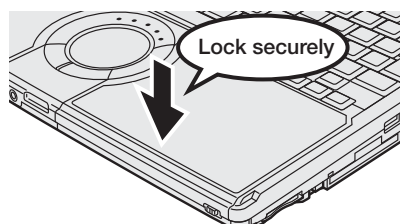
● To remove

Press on the center spindle and carefully lift up the edge of the disc.



4 Close the disc cover.

Press down the center of the disc cover (position of the arrow) to ensure that the cover is locked.



CAUTION

- After setting the disc, do not click the CD/DVD drive icon (on Windows Explorer, etc.) until the disc is recognized by the computer.
- For AutoPlay Disc:
An AutoPlay Disc may start during file access depending on the status of the disc.
When playing back motion video from a disc, playback may not be smooth in some conditions.
- When you turn on the CD/DVD drive power for the first time after purchase or reinstallation, the CD/DVD drive is recognized as a new device. Do not turn off the drive power with the drive power/open switch until the recognition process is completed (approximately 30 seconds).

NOTE

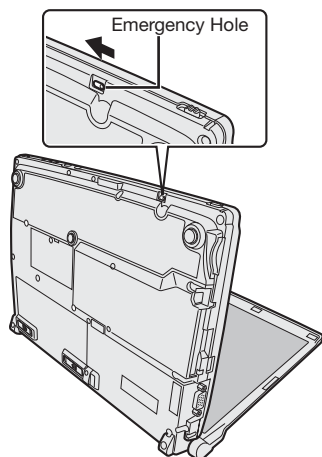
Power-saving mode of the CD/DVD drive

If the drive is not accessed for 30 seconds, the drive motor will automatically be shut down to reduce the power consumption.

When the drive is accessed again, the drive motor is turned on. In this case, reading of the disc data will take approximately 30 seconds.

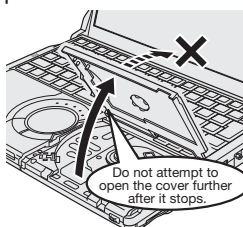
Cannot open the disc cover

To remove a disc when the disc cover cannot be opened or when the computer is powered off: Insert a pointed object (e.g., the bent-out tip of a paper clip, or the tip of a ballpoint pen) into the emergency hole, and move in the direction of the arrow.



When opening the disc cover

- Be sure to close the display only after confirming the disc cover is closed. If the disc cover is not closed, the LCD may become damaged.
- Never insert a foreign object such as a paper clip into the drive.
Doing so may cause malfunction.
- The disc cover can be opened up to an angle that will automatically open to this maximum open position.



If you accidentally touch the disc cover causing the disc cover to open more than the degrees described above, press the cover forward slowly until the stopper returns to its original position.

- Do not leave the disc cover open and do not touch the lens. The lens and disc can become dusty in some conditions. It may cause malfunction in reading or writing.

About Playback of Media Recorded with CPRM

CPRM is rights management technology which is used when digital broadcasts with recording restrictions are recorded to DVD-RAM, DVD-R or DVD-RW with a DVD recorder.

To play back such content, your operating environment must be connected to the Internet. Once connected to the Internet, the content is recognized automatically and is available for playback. From the next time, it can be played back without connecting to the Internet.

→ Reference Manual (CD/DVD Drive)

Using WiMAX

For detailed information, refer to  *Reference Manual* “ (Wireless)”.

Precautions Regarding WiMAX Communication Contracts

In the following cases, if you do not cancel your WiMAX communication contract, your monthly communication fees may continue to be charged. For details on how to cancel your WiMAX communication contract, contact your WiMAX communication service provider.

Main Cases

- You no longer need the WiMAX communication function
- You give the computer to someone else
- You dispose of the computer (including recycling, selling in an auction)
- You repair or replace the WiMAX function
- You repair or replace the wireless LAN

Using WiMAX for the First Time

To use WiMAX for the first time after purchase, you need to enter a contract with a WiMAX communication service provider. Perform the following operation within a WiMAX service area.

CAUTION

- When communication using WiMAX is started, the communication restarts automatically after resuming the computer, restarting the computer, or performing fast user switching. Communication may also be performed even while logged off.
If you are not using WiMAX, turn off WiMAX, or click [Disconnect] in [Intel® PROSet/Wireless WiMAX Connection Utility] to disconnect the communication.
If the communication is not disconnected, the communication charges may reach a high level, depending on the price plan in your contract.

Connect to the Internet

- 1 Slide the wireless switch to the right.

- 2 Click  on the notification area, click the **Wireless Switch Utility** icon and then click **[WiMAX ON]**.

- If [WiMAX ON] and [WiMAX OFF] are grayed and cannot be clicked, [Wireless LAN/ WiMAX] is set to [Disabled] in the [Advanced] menu of the Setup Utility. Start the Setup Utility and change this setting to [Enabled] (the default setting is [Enabled]). (→ page 54)



CAUTION

- Because WiMAX and the wireless LAN use the same communication module, they cannot be used at the same time. When WiMAX is turned on, the wireless LAN is turned off automatically, and when the wireless LAN is turned on, WiMAX is turned off automatically.

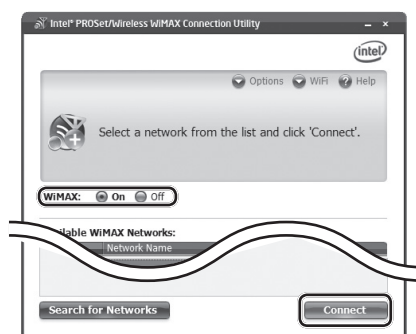
- 3 Move to a location within the **WiMAX service area**.

For the areas where communication is possible, see the following website.
<http://www.uqwimax.jp/service/area/>

- 4 Double-click  on the desktop.

If  is not displayed on the desktop, click  (Start) - [All Programs] - [Intel PROSet Wireless] - [WiMAX Connection Utility].

- 5 Confirm **[On]** in **[WiMAX:]** at **[Intel® PROSet/Wireless WiMAX Connection Utility]** and click **[Connect]**.





- Click [Connect], and if [You are connected to UQ WiMAX] is displayed, click [OK]. After a short time, the [WiMAX General Portal Start Page] is displayed for entering a contract with a WiMAX communication service provider. Depending on the usage conditions, it may take up to approximately 5 minutes for [WiMAX General Portal Start Page] to be displayed. Sometimes, it may not be displayed automatically. In this case, click [Disconnect] to disconnect the communication, and then click [Connect]. Confirm that [WiMAX General Portal Start Page] is displayed.
- If you cannot click [Connect], WiMAX may be set to off, or you may be performing the operation outside the service area. Check the details on the screen.

6 In the WiMAX general portal screen, select a WiMAX communication service provider, and enter the required items by following the instructions on the corresponding company's online contract screen.

The information to be entered varies depending on the WiMAX communication service provider. For details, contact the WiMAX communication service provider.

7 Double-click on the desktop.

If  is not displayed on the desktop, click  (Start) - [All Programs] - [Intel PROSet Wireless] - [WiMAX Connection Utility].

8 Click [Connect].


- If you cannot click [Connect], WiMAX may be set to off, or you may be performing the operation outside the service area. Check the details on the screen.





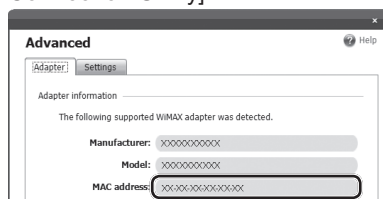
NOTE

- If you are not using WiMAX, turn off WiMAX, or click [Disconnect] in [Intel® PROSet/Wireless WiMAX Connection Utility] to disconnect the communication.
If the communication is not disconnected, when the computer resumes from sleep or hibernation, it will connect automatically to WiMAX (depending on the usage conditions, in some cases it may not connect automatically).
If the communication is not disconnected, the communication charges may reach a high level, depending on the price plan in your contract.
- You only need to enter a contract the first time you use the WiMAX connection. From the second time, steps 4 to 6 are not required.

MAC Address

In some situations, such as when repairing the computer, you may need to notify the WiMAX communication service provider of the MAC address in advance. Double-click  (WiMAX Connection Utility) on the desktop, click [Options] in the [Intel® PROSet/Wireless WiMAX Connection Utility] screen, and then click [Advanced]. You can check the MAC address here.

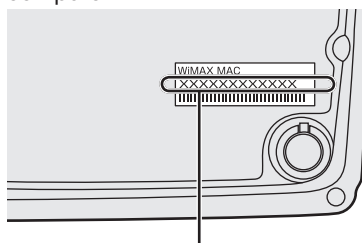
If  is not displayed on the desktop, click  (Start) - [All Programs] - [Intel PROSet Wireless] - [WiMAX Connection Utility].



MAC Address
(12 digits, alphanumeric characters)

The MAC address is also displayed on the bottom of the computer.

If the computer is not turned on, or you cannot display the [Intel® PROSet/Wireless WiMAX Connection Utility] screen, check the bottom of the computer.



MAC Address
(12 digits, alphanumeric characters)

Expanding Memory


This computer is equipped with a RAM module slot. You can expand the RAM module (sold separately). The increase in memory will improve the processing speed of Windows and other software application. (Effects may differ depending on your usage conditions.)

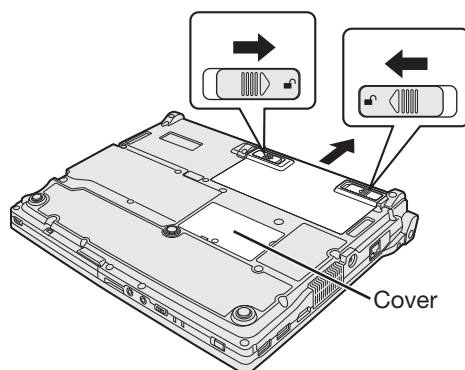
CAUTION

Note the following:

- Use recommended RAM module products (Model No. CF-BAD02GU or CF-BAD04GU). Refer to various sources for recommended RAM module.
Do not use non-recommended RAM modules. Non-recommended RAM modules may not operate properly, and may cause damage to your computer. Some non-recommended RAM modules may overheat, causing the cover to warp.
- Refer to “Specifications” (➔ page 90) for recommended RAM module specifications.
- Panasonic will bear no responsibility whatsoever for failures or damage caused by the use of non-recommended RAM modules, or by incorrect installation or removal of such RAM modules. Before installing a RAM module, confirm the product type and the correct installation method.
- RAM modules are extremely sensitive to static electricity. There are cases where static electricity generated by the human body has adversely affected such RAM modules. When inserting or removing a RAM module, do not touch the terminals or internal components, insert objects other than the module, or allow foreign particles to enter. Doing so has been known to cause damage, fire or electric shock.
- Turn off the computer and remove the AC adaptor and battery pack before inserting/removing the RAM module.
- Use the appropriate screw driver so as not to strip the thread of screw.

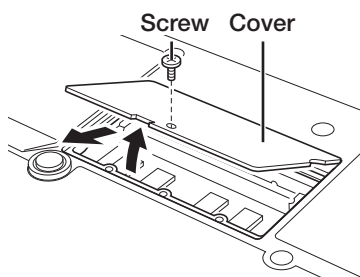
Inserting the RAM Module

- 1 Prepare the RAM module (optional).**
- 2 Turn off your computer and disconnect the AC adaptor.**
Do not use the sleep or hibernation.
- 3 Turn the computer over.**
- 4 Slide the left and right latches to the unlocked position , and pull out the battery pack, and remove the battery pack.**

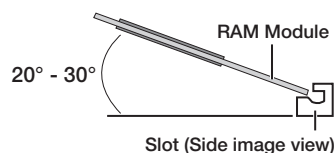
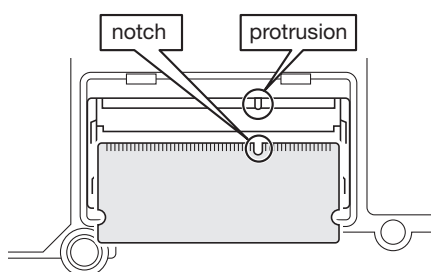


5 Remove the screw, then hold up the cover.

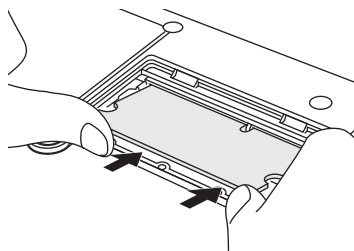
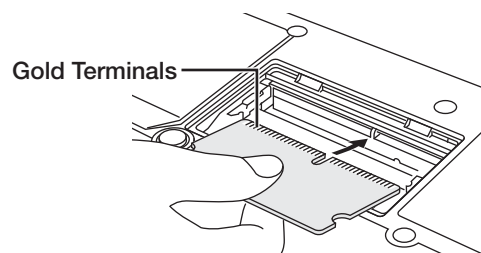
Refer to the illustration in step 4.



6 Place the RAM module lightly in parallel with the RAM module slot so that the notch of the RAM module and the protrusion of the RAM module slot is in the same direction.

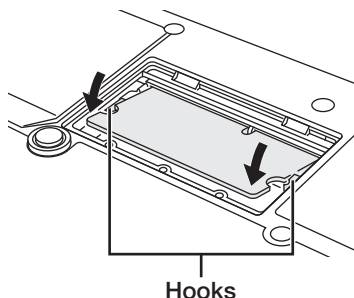


7 Insert the module parallel to the slot and press firmly until the gold terminals are no longer visible.



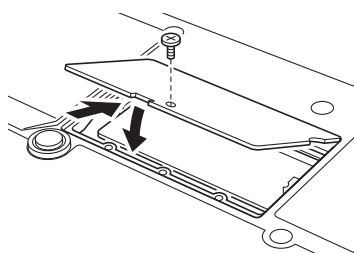
- If the RAM module is difficult to insert, do not force it. Check once more to ensure that the module is positioned correctly.
- The slot may be damaged if the following procedure is performed without inserting the module firmly.

8 Press the RAM module down until the right and left hooks lock into place.



If it is hard to press down the RAM module, do not try forcibly but check the module's direction.

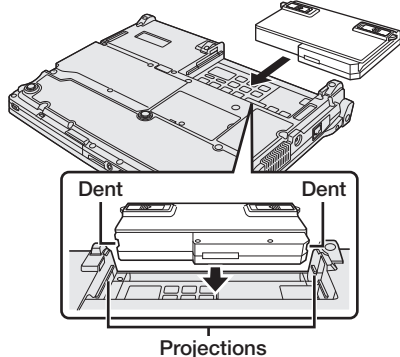
9 Insert the cover at an angle, then fasten the screw.



Expanding Memory

- 10 Slide the battery pack in parallel with the arrow direction and attach it so that the left and right dents on the battery pack match the projections of the computer.**

Be careful about the battery pack direction.



In case that the projection does not match the dents of the battery pack, detach the battery pack once, then slide it while pushing it lightly to avoid floating.

- 11 Confirm that the latch is properly locked.**

The latches are locked automatically.

If it is not, the battery pack may come off while you are carrying the computer.

- 12 Connect the AC adaptor.**



NOTE

- If the RAM module has not been inserted properly, or if a RAM module other than one matching the specifications has been inserted, nothing may be displayed on the screen even after the computer is turned on. If this happens, turn off the computer, check that the RAM module is the recommended module, and reinstall the module correctly.

Confirm the total size of memory

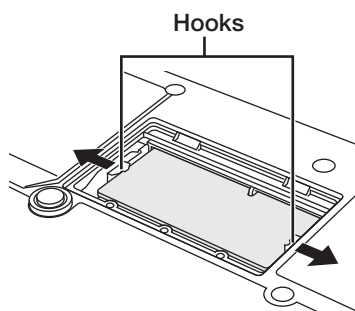
If the RAM module is recognized correctly, the total size of this computer's memory and RAM module memory is displayed on the [Information] menu of the Setup Utility. (→ page 52)

Removing the RAM Module

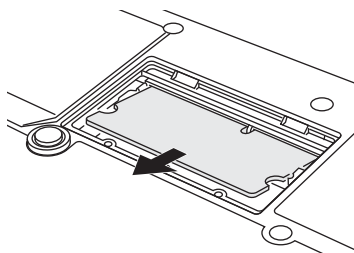
Take the following steps to remove the RAM module after the step 2- 5 under "Inserting the RAM Module".

- 1 Carefully open the left and right hooks.**

The RAM module will be raised.



- 2 Carefully remove the RAM module from the slot.**



- 3 Set the cover and battery pack back, then connect the AC adaptor. (→ page 47 step 9-12 "Inserting the RAM Module")**

Setup Utility

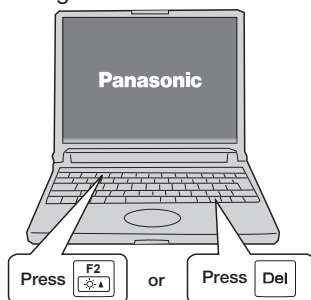
The Setup Utility sets the computer's boot-up operating environment, i.e. passwords, startup drive, etc. The following six menu items are available: [Information], [Main], [Advanced], [Boot], [Security], [Exit]

Starting/Closing the Setup Utility

Starting the Setup Utility

- 1 Turn on or restart the computer.
- 2 Press **F2** or **Del** while [Panasonic] boot screen is displayed soon after the computer starts the startup procedure.

When setting to [Boot Mode] to [Fast], the [Panasonic] boot screen will not appear immediately after the computer is turned on. To start the Setup Utility, press and hold **F2** or **Del** while turning the computer on. [Boot Mode] can also be configured in Quick Boot Manager.



- 3 When the password is set, [Enter Password] will be displayed. Enter supervisor password or user password, and press **Enter**.



NOTE

- If you fail to press **F2** or **Del** at the right moment, the Setup Utility will not start up. In this case, restart Windows.
- Cannot display the Setup Utility screen in simultaneous display.
Until Windows startup is completed (during Setup Utility, etc.), You can not switch the display mode by pressing **Win** + **P**.
- Even when a password is set, if [Password On Boot] is set to [Disabled], password entry is not required when you start up the computer. Also, if [Password On Reboot] is set to [Disabled], password entry is not required when you restart the computer.
When you start up the Setup Utility, password entry is required.
- If Num Lock or Caps Lock is set when you set or enter a password, a screen is displayed to alert the user.

Closing the Setup Utility

- 1 Press **Esc** or **Esc** to display [Exit] menu.
- 2 Select [Save Values and Reboot] or [Reboot Without Saving Changes] and press **Enter**.
- 3 Select [Yes] and then press **Enter**.

Items Restricted with the User Password

The items that can be displayed and set vary depending on the type of password entered in step 3 of “Starting the Setup Utility” (→ page 49).

If the computer is used by more than one person, set both a supervisor password and user password. If users are not administrators, inform them of the user password only. This prevents the settings from being changed.

● When inputting the Supervisor Password

You can register all items of the Setup Utility.

● When inputting the User Password

The following restrictions apply (available ○, not available: ×). Also, pressing **[F9]** to return the setting values of each item to the default setting values (excluding password, System Time and System Date) is not available.

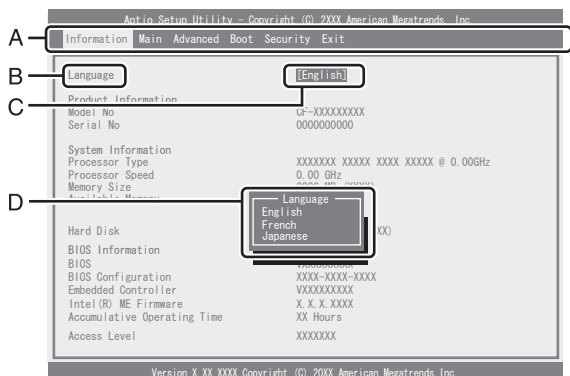
Menu	Display	Change
[Advanced] Menu	○	×
[Boot] Menu: [Boot Option]	○	×
[Security] Menu: [Setup Utility Prompt]	○	×
[Security] Menu: [Boot Popup Menu]	○	×
[Security] Menu: [Password On Boot]	○	×
[Security] Menu: [Password on Reboot]	○	×
[Security] Menu: [Password On Resume]	○	×
[Security] Menu: [Boot Device on Hibernation Resume]	○	×
[Security] Menu: [Set Supervisor Password]	×	×
[Security] Menu: [Hard Disk Lock]	×	×
[Security] Menu: [User Password Protection]	○	×
[Security] Menu: [Set User Password]	○	○ *1
[Security] Menu: [Embedded Security (TPM)]	○	×
[Exit] Menu: [Load Default Values]	×	×
[Exit] Menu: [Boot Override]	×	×

*1 The User Password can be changed only when [User Password Protection] has been set to [No Protection]. The User Password cannot be deleted.

*2 The sub-menu can be displayed and changed only when [Sub-Menu Protection] has been set to [No Protection]. (excluding [Sub-Menu Protection])

*3 This item can be changed only when [Boot Popup Menu] has been set to [Enabled].

How to use the screen



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

Key Operations

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

Setup Utility

Information Menu

(Underlined items are the factory presets.)

Menu	Functions	Settings
Language	Select the language for displaying the Setup Utility.	<u>English</u> French Japanese
Product Information Model No. Serial No. System Information Processor Type Processor Speed Memory Size Available Memory Hard Disk BIOS Information BIOS BIOS Configuration Embedded Controller Intel(R) ME Firmware Accumulative Operating Time Access Level	To display and confirm information. These items cannot be selected or changed.	

Main Menu

(Underlined items are the factory presets.)

Menu	Functions	Settings
System Date	The <u>[Tab]</u> can be used to move Month/Day/Year. Numerical values can be adjusted using <u>[F5]</u> and <u>[F6]</u> or inputted using the keyboard.	[xxx xx/xx/xxxx]
System Time	24-hr. style. <u>[Tab]</u> can be used to move hour/minute/second. Numerical values can be adjusted using <u>[F5]</u> and <u>[F6]</u> or inputted using the keyboard.	[xx:xx:xx]

Main Configuration

Menu	Functions	Settings
Touch Pad	Select whether to use the touch pad ([Enabled]) or not ([Disabled]).	Disabled <u>Enabled</u>
Fn/Ctrl Key	Select whether to switch <u>[Fn]</u> with <u>[Ctrl]</u> functions, and vice versa on the internal keyboard. This can also be configured in Fn Ctrl function switch utility. Do not attempt to replace the markings on the keys, or the keys themselves.	<u>Normal</u> Replace

Menu	Functions	Settings
Display	The display during the Windows start-up process. When an external display is not connected, the information appears on the internal LCD even though [External Monitor] is set. After Windows starts up, the screen is displayed on the display destination set in the following procedure. ① Right-click the desktop. ② Set the display destination at [Graphic properties].	<u>External Monitor</u> Internal LCD

Menu	Functions	Settings
Optical Drive Power	<p>You can set the drive power to [On] or [Off] when the computer is started up.</p> <ul style="list-style-type: none"> ● When set to [On]. From the next time you start the computer, you will be able to start up from CD/DVD drive. To start up from the CD/DVD drive, set this to [On]. Cannot be set when [Optical Drive] is set to [Disabled]. ● When set to [Off]. The disc cover cannot be opened until Windows has started. ● Regardless of whether this is set to [On] or [Off], the drive power cannot be turned on using the drive power/open switch until Windows has started up. 	Off On
Battery Charging Indicator	Set the battery indicator to turn on or flash while the battery pack is recharging.	On Continuous Flashing
LED Brightness	<p>You can set the brightness of the power indicator.</p> <p>[Auto]: The brightness varies according to brightness of the internal LCD. [Dimmer]: The brightness remains dark and does not vary.</p>	Auto Dimmer
Optional Kit Configuration	This function will not work in this computer.	Enters the sub-menu.

Advanced Menu

(Underlined items are the factory presets.)

Menu	Functions	Settings
CPU Configuration	<ul style="list-style-type: none"> • Execute-Disable Bit Capability Select whether to use the Execute-Disable Bit Capability ([Enabled]) or not ([Disabled]). When [Execute-Disable Bit Capability] is set to [Enable], it means that this computer supports hardware-based Data Execution Prevention (DEP). It should usually be set to [Enabled]. Factory presets: [Enabled] • Intel(R) Hyper-Threading Technology Select whether to use the Intel(R) Hyper-Threading Technology ([Enabled]) or not ([Disabled]). Factory presets: [Enabled] • Core Multi-Processing Select whether to use the Core Multi-Processing ([Enabled]) or not ([Disabled]). When using Windows 7, do not change the [Enabled]. When [Disabled] is set, operations are not supported. Factory presets: [Enabled] • Intel(R) Virtualization Technology Select whether to use the Intel(R) Virtualization Technology ([Enabled]) or not ([Disabled]). When [Enabled] is set and virtualization software that supports Intel(R) Virtualization Technology is used, the CPU load can be reduced. Factory presets: [Enabled] <p>Press [Esc] to close the sub-menu.</p>	Enters the sub-menu.

Setup Utility

Peripheral Configuration

Menu	Functions	Settings
HDD Controller Setting	Select whether the HDD Controller Setting is set to be [Compatible] or [AHCI].	Compatible <u>AHCI</u>
Optical Drive	Select whether to use the internal CD/DVD drive ([Enabled]) or not ([Disabled]).	Disabled <u>Enabled</u>
LAN	Select whether to use the internal LAN ([Enabled]) or not ([Disabled]).	Disabled <u>Enabled</u>
Power On by LAN	Set whether to use (Allow) or not use (Deny) the Power On by LAN function that turns on the computer via the LAN. When the power is turned on via the LAN, the password entry screen is no longer displayed during startup.	<u>Deny</u> Allow
Wireless Configuration	Displays a sub-menu related to the settings of the internal wireless function. <ul style="list-style-type: none"> Wireless LAN/WiMAX Select whether to use the internal wireless LAN and WiMAX ([Enabled]) or not ([Disabled]). Factory presets: [Enabled] Press [Esc] to close the sub-menu. 	Enters the sub-menu.

Menu	Functions	Settings
PC Card Slot	Select whether to use the PC Card slot ([Enabled]) or not ([Disabled]).	Disabled <u>Enabled</u>
SD Slot	Select whether to use the SD memory card slot ([Enabled]) or not ([Disabled]).	Disabled <u>Enabled</u>

Menu	Functions	Settings
USB Port	Select whether to use the USB port ([Enabled]) or not ([Disabled]).	Disabled <u>Enabled</u>
Legacy USB Support	Select whether to use the function that makes the computer recognize, USB keyboard, USB floppy disk drive, and USB CD/DVD drive ([Enabled]) or not ([Disabled]) before starting Windows. This is effective only when [USB Port] is set to [Enabled], and [Boot Mode] is set to [Normal] in the [Boot] menu. Even when [Disabled] is set, the Setup Utility can be operated using the USB keyboard.	Disabled <u>Enabled</u>

Boot Menu

Menu	Functions	Settings
Boot Mode	Select whether to set Boot Mode to high speed (Fast), not set it to high speed (Normal), or set it to low speed (Compatible) to make it compatible with certain USB devices. Setting [Fast] will skip the [Panasonic] boot screen normally displayed immediately after the computer is turned on. The time required to display the Windows boot screen will become shorter. Since the [Panasonic] boot screen is not displayed, press and hold [F2] or [Del] and turn the computer on to start the Setup Utility. This can also be configured in Quick Boot Manager. If the initialization (Boot Mode) setting or all settings are cleared using Quick Boot Manager, the [Boot Mode] will be set to [Normal]. If the startup from USB devices is not possible, set [Compatible] and retry. However, setting [Compatible] will require longer time to display the Windows boot screen than setting [Normal].	Fast <u>Normal</u> Compatible

Menu	Functions	Settings
Boot Option Priorities	<p>Set the boot order.</p> <p>To change the boot order: Press [Enter] on the boot device you want to change and select the boot device from the menu.</p> <p>For example, when starting up from the hard disk drive:</p> <ol style="list-style-type: none"> ① Select [Boot Option #1] using [↑] or [↓] and press [Enter]. ② Select [Hard Disk] using [↑] or [↓] and press [Enter]. <p>You can also set devices to other boot options using the same operation. If the device set in [Boot Option #1] cannot be recognized, startup is performed from the device set in [Boot Option #2].</p>	<p>Hard Disk</p> <p>Optical Drive</p> <p>LAN</p> <p>USB Floppy Disk</p> <p>USB Hard Disk</p> <p>USB Optical Drive</p> <p>Disabled</p>



NOTE

- Panasonic USB floppy disk drive (CF-VFDU03 (optional)) can be used for startup (recommended).
- To start up in a different priority order from usual for one time only, such as when starting up from the CD/DVD drive, select a device displayed under [Boot Override] of the [Exit] menu, and press **[Enter]**.
- The device for starting up the operating system can also be selected during computer start-up. Set [Boot Popup Menu] to [Enabled] in [Security] menu beforehand.
 - ① Turn on the computer.
 - ② Press **[Esc]** while [Panasonic] boot screen is displayed soon after the computer starts the startup procedure.
If the [Panasonic] boot screen is not displayed, turn on the computer while holding down **[Esc]**.
 - ③ Select the boot device and press **[Enter]** at [Please select boot device].
- When starting up from the USB port, confirm the following settings.
 - [USB Port] is [Enabled] in the [Advanced] menu.
 - [Legacy USB] is [Enabled] in the [Advanced] menu.
 - [Boot Mode] is [Normal] in the [Boot] menu.
- When starting up from the internal CD/DVD drive, confirm the following settings.
 - [Optical Drive] is [Enabled] in the [Advanced] menu.
 - [Optical Drive Power] is [On] in the [Main] menu.
 - [Boot Option #1] is [Optical Drive] in the [Boot] menu.

Security Menu

(Underlined items are the factory presets.)

Boot Prompt Configuration

Menu	Functions	Settings
Setup Utility Prompt	When [Setup Utility Prompt] is set to [Disabled], the message "Press F2 for Setup / F12 for LAN" is not displayed on [Panasonic] boot screen.	Disabled <u>Enabled</u>
Boot Popup Menu	Set whether to display (Enabled) or not display (Disabled) the [Please select boot device] message that can be displayed by pressing [Esc] immediately after startup. When [Enabled] is set, the [Boot Override] item in the [Boot] menu can be selected, even if a user password was entered when you start up the Setup Utility.	<u>Disabled</u> Enabled
Password On Boot	Set the entry of the supervisor password or user password when starting up the computer to be required (Enabled) or not be required (Disabled); or, when [Intel(R) Anti-Theft Technology] is set to [Active] only, to not be required (Auto).	Disabled Enabled <u>Auto</u>
Password on Reboot	Never require supervisor or user password entry at Windows restart (Disabled), or require password entry based on the [Password On Boot] setting (Same as Boot).	Disabled <u>Same as Boot</u>

Setup Utility

Menu	Functions	Settings
Password On Resume	Set the entry of the supervisor password or user password when the computer resumes from sleep or hibernation to be required (Enabled) or not be required (Disabled); or, when [Intel(R) Anti-Theft Technology] is set to [Active] only, to not be required (Auto). This can only be set when [Password On Boot] is set to [Enabled] or [Auto].	<u>Disabled</u> Enabled Auto
Boot Device On Hibernation Resume	Set whether to only use the internal hard disk as the startup device when the computer resumes from hibernation, or to try starting up from other devices with a higher priority than the internal hard disk.	Try prior devices <u>Hard Disk only</u>

Menu	Functions	Settings
Set Supervisor Password	Set a Supervisor Password if you wish to prevent any unauthorized changes to the Setup Utility settings, also if you require a password on boot, set [Password on boot] to [Enable] after you set Supervisor Password.	Enter the sub-menu.
Hard Disk Lock	Select whether to enable (Enable) or disable (Disable) the Hard Disk Lock. This function will not work without the Supervisor Password being set.	<u>Disabled</u> Enabled
User Password Protection	Select whether to permit changing the User Password ([Protected]) or not ([No Protection]).	<u>No Protection</u> Protected
Set User Password	Set User Password when multiple users use this computer, etc. This function will not work without the Supervisor Password being set. Also, if the user password is entered when you start up the Setup Utility, some of the settings cannot be changed.	Enter the sub-menu.

Menu	Functions	Settings
Intel(R) Anti-Theft Technology	This item cannot be changed. Intel(R) Anti-Theft Technology is technology made by Intel® as a countermeasure against theft. It prevents information leaks by turning off the computer and preventing startup in an emergency, such as when the computer is stolen, and erases the key data that is required for accessing encrypted data. To use Intel® Anti-Theft Technology, a special solution provided by a service provider is required. For details such as the operation method, contact your service provider.	<u>Inactive</u> Active Stolen Suspend
Suspend mode transition	Set whether to put the computer to sleep (Enabled) or not to put it to sleep (Disabled) when using Intel(R) Anti-Theft Technology. This can only be set when [Intel(R) Anti-Theft Technology] is set to [Active] or [Suspend].	<u>Disabled</u> Enabled

Menu	Functions	Settings
Embedded Security (TPM)	<p>Displays a sub-menu related to the settings of Embedded Security (TPM). This function will not work without the Supervisor Password being set.</p> <ul style="list-style-type: none"> • Sub-Menu Protection Select whether to permit changing the Embedded Security (TPM) or not. Factory presets: [Protected] • TPM State Select whether to use the TPM ([Enabled]) or not ([Disabled]). Factory presets:[Disabled] • Pending TPM operation When [Clear TPM Owner] is selected, the owner information held within Embedded Security (TPM) is initialized, and data that was protected by Embedded Security (TPM) cannot be restored or used. Use this before disposing of the computer or giving it to someone else. • Current TPM Status Information To display the current TPM status information. This items cannot be selected or changed. <p>Press [Esc] to close the sub-menu.</p>	Enter the sub-menu.

Setting the Password in the Setup Utility

When a password is set in the Setup Utility, password entry is required when you start up the Setup Utility. Also, when [Password On Boot] is set to [Enabled] or [Auto]**4, password entry is required immediately after you turn on the computer, which prevents unauthorized use by a third party. Before configuring the setting, be sure to refer to *Reference Manual* “ (Security).”

*4 When [Password On Boot] is set to [Auto] and Intel(R) Anti-Theft Technology is being used, password entry is not required.

To check whether or not Intel(R) Anti-Theft Technology is being used, refer to [Intel(R) Anti-Theft Technology] in the [Security] menu of the Setup Utility. If Intel(R) Anti-Theft Technology is being used, [Active] is displayed.

1 Turn on or restart the computer.

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

When the password is set, the screen will be displayed.

3 Select [Security] using **[←]** or **[→]**.

To set the supervisor password:


Select [Set Supervisor Password] using **[↑]** or **[↓]**, and press **[Enter]**.

To set the user password:

Select [Set User Password] using **[↑]** or **[↓]**, and press **[Enter]**.

- When the Supervisor Password has not been set, the User Password cannot be set. Set the Supervisor Password if you have not done so.

4 Enter your password in [Create New Password] and press .

- Your password will not be displayed on the screen.
- If the [Caution] screen appears when entering the password, check the status of NumLock and CapsLock.
- Only up to 32 alphanumeric characters can be used for password. There is no distinction between uppercase and lowercase letters.
 - Some symbol keys cannot be used in the password. If you press an unusable symbol key, it will not be entered in the password.
 - Use only the upper horizontal row of numeric keys to input your password.
 - When [Caution] is displayed and [Caps Lock: On] is displayed (the Caps Lock indicator is lit), the password is set in uppercase letters.
Also, when [Num Lock: On] is displayed (Num Lock indicator is lit), a part of the keyboard becomes the Num Lock area, and numbers or calculation symbols are set.
Check the status of the keyboard Num Lock and Caps Lock before entering the password. If you enter the password without checking, you may set a different password from the one you intended.
- Do not input your password while holding down on  etc.

5 Enter your password again in [Confirm New Password] and press .

6 Press , and then select [Yes] and press .

CAUTION

Do not forget your password.

- **Settings related to security, such as the passwords you set yourself, cannot be canceled by our Service Center, or anyone else at Panasonic.**
Be sure not to forget settings such as passwords.
- **If you forget your supervisor password**
A paid-for repair is required. Contact the Repair Center. You will need to bring in the computer yourself, and the repair will take several days. During the repair, the Setup Utility settings will be returned to the default settings. Also, if the Hard Disk Lock is enabled, it cannot be disabled even during a repair, so be absolutely sure not to forget the password in this case.
- **If you forget your user password:**
Start up the Setup Utility and enter the Supervisor Password. You can change the user password.
If the Supervisor Password is forgotten, ask a person who knows the Supervisor Password.
- **When ordering a computer repair**
Disable the supervisor password and the user password.

Setting the Hard Disk Lock

When the [Hard Disk Lock] is set to [Enabled], it is impossible to read/write data from/to the hard disk when the hard disk is inserted in a different computer.

Note that this Hard Disk Lock does not guarantee complete protection of data.

1 Start up the Setup Utility. (→ page 57)

If the password has been set, enter the Supervisor Password, and press **[Enter]**.

When the Supervisor Password has not been set, set the Supervisor Password. (→ below)

2 Select [Security] using **[←]** or **[→]**.

To set the supervisor password:

① Select [Set Supervisor Password] using **[↑]** or **[↓]**, and press **[Enter]**.

② Enter your password in [Create New Password] and press **[Enter]**.

③ Enter your password again in [Confirm New Password] and press **[Enter]**.

3 Select [Hard Disk Lock] using **[↑]** or **[↓]**, and press **[Enter]**.

4 Select [Enabled] using **[↑]** or **[↓]**, and press **[Enter]**.

5 At the confirmation message, press **[Enter]**.

6 Press **[F10]**, and then select [Yes] and press **[Enter]**.

When starting up the computer, if the message [Hard disk access is prohibited by “Hard Disk Lock”] appears, run the Setup Utility, and change the settings to match the details when [Hard Disk Lock] was set.

Setup Utility

Exit Menu

Menu	Functions
Save Values and Reboot	To reboot the system after saving the changes.
Reboot Without Saving Changes	To reboot the system without saving the changes.

Save Options

Menu	Functions
Save Current Values	To save the changes for all Setup options.
Load Previous Values	To load previous values for all Setup options.

Menu	Functions
Load Default Values	To return the settings to the default values.

Menu	Functions
Boot Override	To select a boot device which operates only in the next booting. If the item is grayed and cannot be selected, press [F10] to close the Setup Utility, and then start up the Setup Utility again.

Menu	Functions
Repair Your Computer	To perform system recovery tools (reinstalling software or erasing hard disk data). This is not displayed if the Hard Disk Data Erase Utility has been executed. If the item is grayed and cannot be selected, press [F10] to close the Setup Utility, and then start up the Setup Utility again.
Diagnostic Utility	To start Diagnostic Utility. (➔ page 75) If the item is grayed and cannot be selected, press [F10] to close the Setup Utility, and then start up the Setup Utility again.


Changing Hard Disk Partitions

What is “Partitions”?

A partition is an area (or segment) created on a hard disk.

By creating multiple partitions on a single hard disk, you can use one hard disk as if it were multiple disks.

In the default settings, only one partition on this computer can be changed (the recovery partitions (comprised of the Recovery partition and HDD Recovery partition) cannot be changed).

1 Click  (Start) and right-click [Computer].

2 Click [Manage].

If the User Account Control screen appears, click [Yes].

A standard user needs to enter an administrator password.

3 Click [Disk Management].



4 Right-click the partition for Windows (“c” drive in the default setting), and click [Shrink Volume].

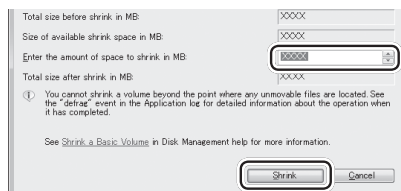
The screen below is an example. The partition size depends on the computer specifications.



5 Input the size in [Enter the amount of space to shrink in MB] and click [Shrink].

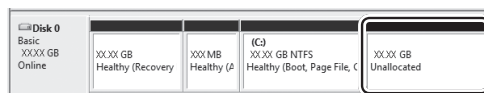
By shrinking some of the area on the hard disk, you can create multiple partitions on the hard disk.

You cannot input a larger number than the displayed size. Also, when a partition is shrunk to 40 GB or less, the OS cannot be reinstalled on that drive.



6 Right-click [Unallocated] (the shrunk space in the step 5) and click [New Simple Volume].

The size is smaller than the entered value.



7 Click [Next].

Configure the following settings.

Specialist knowledge is required to change the settings in ② and ③ to settings other than those displayed. Normally, keep the displayed settings and click [Next].

① Specify Volume Size

Specify the size of the partition to be created. To use the entire [Unallocated] area, keep the displayed size and click [Next].

When a value smaller than the displayed size is entered, the remaining size is left over as the [Unallocated] area.

② Assign Drive Letter or Path

③ Format Partition

8 Click [Finish].

The formatting of the new partition starts. (If “Format this volume with the following settings” is selected in ③ of step 7.)

The formatting progress is displayed on the screen. Wait until it has finished.

● To add a partition

You can add a partition from step 6 if an [Unallocated] area remains, and from step 4 if there is still enough space in the Windows area.

● To delete a partition

Right-click the partition you want to delete in the screen shown in step 4, and click [Delete Volume].

If a Problem Occurs in the Computer

Resolving Problems

Symptom

Check/Reference



Black dots or colored dots on the screen



This is not a malfunction (→ page 71)



Screen is too dark



Press **[Fn] + [F2]** (→ page 25)



Unknown specifications

- Which RAM modules can be used?
- What software applications are supplied?



Specifications (→ page 90)



Operating time is short



Changes according to the usage environment (→ page 36)



The computer does not power on/Windows does not start up



Refer to “Troubleshooting”. (→ page 64, 65)



The Windows screen is displayed, but cannot be operated

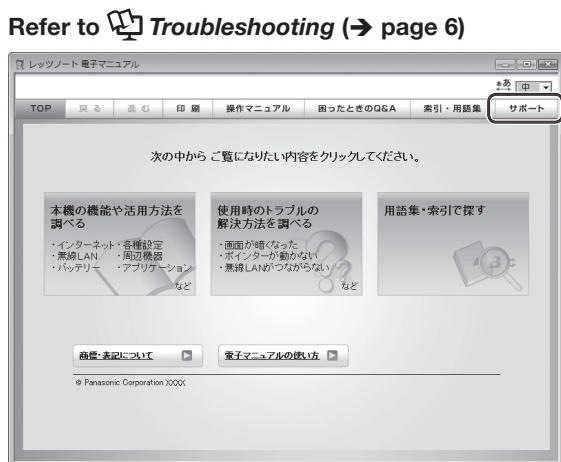
- Keyboard
- Touch Pad
- Internet
- Wireless LAN etc.



Refer to **Troubleshooting** (→ page 6)



Your peripheral does not work/A PC Card does not work



Software applications preinstalled at the time of purchase



Some software applications may not work properly

Other software

Further reference/Repair

If not resolved

Contact for repair

- 1 Fill in *Repair Order Sheet*.
- 2 Check the detailed information related to repair in the *Preparation and Setting Guide*, and then contact the Repair Center.

“Hardware Diagnostics”
(→ page 75)

“Reinstalling Software”
(→ page 81)

<http://askpc.panasonic.co.jp>



My Let's Customer Desk

E-mail rakuten@panasonic.jp

Operating hours 10:00 to 18:00
(Excluding weekends, national holidays,
year-end holidays and Obon holidays)

* Please understand that the details above may be changed
without prior notice.

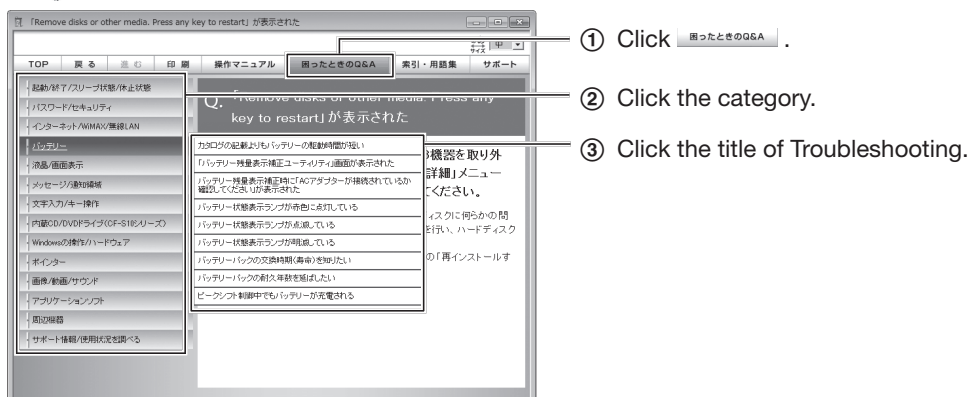
Read the instruction
manual or web of
the peripherals.


Contact the support
office of the
peripherals.


Read the software related
manual or web.

Contact the
support office
of the software
applications.



When a problem occurs, refer to this page. The  **Troubleshooting** also contains detailed information. Double-click  on the Desktop.










Question	Measure
The computer does not power on/The battery indicator  is not lit.	Check that the AC adaptor or a fully-charged battery pack is correctly connected. → <i>Preparation and Setting Guide</i>
	Check that the battery pack latches are firmly locked in position.
	If an additional RAM module has been inserted, remove the RAM module and turn on the computer again. If the computer turns on when the RAM module is removed, there may be a problem with the RAM module. <ul style="list-style-type: none"> ● Power off your computer, check that the RAM module is the recommended module, and insert it the module correctly. ● Confirm the specifications for the RAM module. For details regarding the RAM module, refer to “Expanding Memory” or “Specifications” in this <i>Operating Instructions</i>.
	Wait until the computer cools down, and then turn the power on again. When the CPU temperature is high, the computer may not start up to prevent overheating of the CPU. If the computer does not power on even after cooling down, contact your technical support office.
If Windows is started up while the SD/SDHC/SDXC memory card is inserted, Check Disk (CHKDSK) will be executed.	Pull out the AC cord and wait for more than 1 minute to reconnect the AC cord. The AC adaptor’s protection function may be working when the battery indicator does not light on even if the AC adaptor and the battery pack are correctly connected with the computer. If the problem persists, contact your technical support office.
	Wait until Check Disk complete. When removing the SD/SDHC/SDXC memory card without disabling the card function, this problem may occur.



Question	Measure
Windows does not start up.	<p>If the power indicator  is lit, confirm that the computer does not access to the hard disk, and then slide the power switch for four seconds or longer to turn off. Then turn on again.</p>
	<p>When turning on the power the first time after purchase The “The computer restarted unexpectedly or encountered an unexpected error.” message may be displayed instead of the Windows setup screen. This message is displayed if the computer was forcibly turned off before the Windows setup started (the AC adaptor was disconnected, or the battery ran out while you perform the setup with the AC adaptor disconnected), and Windows cannot be used until Windows is reinstalled. If this happens, reinstall Windows.</p>
	<p>If Windows does not start up when resuming from hibernation Use the Recovery Disc to start [System Recovery Options] and execute [Startup Repair] (→ page 80). If Windows still does not start up, use the Recovery Disc to reinstall Windows.</p>
	<p>Press [F9] in the Setup Utility to return the Setup Utility settings to the default values. (→ page 51)</p>
	<p>Remove all peripheral devices (e.g. USB memory).</p>
	<p>Using the following procedure, start up in Safe Mode, and check the error details.</p> <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. ③ Using [↑] or [↓], select [Safe Mode]. ④ Press [Enter]. <p>Follow the on-screen instructions.</p> <p>*1 Supervisor Password or User Password set with the Setup Utility.</p>
<p>When logging on (e.g., resuming the computer), audio is distorted.</p>	<p>Depending on the processing status on Windows, sound may be interrupted at Windows startup. You can mute the sound at startup.</p> <ol style="list-style-type: none"> ① Right-click the desktop and click [Personalize]. ② Click [Sounds] and remove the check mark from [Play Windows Startup sound], and click [OK].
<p>To switch between Windows 7 (64-bit) and Windows 7 (32-bit).</p>	<p>The following methods are available to switch between Windows 7 (64-bit) and Windows 7 (32-bit) (for example, to install Windows 7 (32-bit) on a hard disk on which Windows 7 (64-bit) is installed).</p> <ul style="list-style-type: none"> • Reinstall Windows by using the data in the HDD recovery partition on the hard disk. • Reinstall Windows by using a Recovery Disc with the same OS as the OS you want to install. • If you do not have a Recovery Disc with the same OS, reinstall Windows by using a Recovery Disc with a different OS, and then reinstall Windows by using the data in the HDD recovery partition.
<p>“Remove disks or other media. Press any key to restart” or a similar message appears.</p>	<p>A floppy disk is in the floppy disk drive and it does not contain system startup information. Remove the floppy disk and press any key.</p>
	<p>Remove the USB device or set [Legacy USB Support] to [Disabled] in the [Advanced] menu of the Setup Utility. → page 54</p>
	<p>If the problem persists, it may be a hard disk failure.</p> <ul style="list-style-type: none"> ● Perform the reinstallation and return the hard disk to its condition at the time of purchase. (→ page 81)

Question	Measure
Cannot boot from a floppy disk.	Depending on the floppy disk you are using, the computer may not boot properly. The operation is confirmed by Panasonic USB floppy disk drive (optional: CF-VFDU03U) when the computer boots from the floppy disk.
	Turn off the computer, and reconnect the external floppy disk drive.
	Check that the boot disk is correctly inserted.
	Run the Setup Utility, and confirm the following settings. <ul style="list-style-type: none"> • [USB Port] is set to [Enabled] in the [Advanced] menu. • [Legacy USB Support] is set to [Enabled] in the [Advanced] menu. • [Boot Mode] is set to [Normal] in the [Boot] menu. • [USB Floppy Disk] is the first device shown in [Boot Option #1] in the [Boot] menu. <p>During the next startup only, when starting up from the floppy disk, select the device name (example: [MATSHITAFDD XXXXX]) of the floppy disk drive displayed under [Exit] menu - [Boot Override], and press [Enter].</p> <p>[Boot Mode] can also be configured in Quick Boot Manager. Disable the Easy quick boot mode, or disable [initialization at startup (Boot Mode)] in the Detailed quick boot wizard.</p>
Cannot log on after changing the user name	<p>Try logging on with the user name from before the change.</p> <p>User names are managed using 2 name types, "First Name" and "Full Name."</p>
Windows startup or operation is slow.	This problem may be eliminated by adding external memory.
	If you install resident software after purchasing this computer, disable the resident software.
	Defragment the disk with the Disk Defragmenter.
	If Windows startup is slow, perform the following operations. <ul style="list-style-type: none"> ● Using Quick Boot Manager, reduce the wait time between the time you turn on the computer and the time Windows launches. You can use Boot Training to reduce the startup time of Windows. (→ <i>Reference Manual</i> " (Using Let'snote)") ● Set [Boot Mode] to [Fast] in the [Boot] menu of the Setup Utility. (You can also use Quick Boot Manager to set.) <p>Setting [Fast] will skip the [Panasonic] boot screen displayed immediately after the computer is turned on. The time required to display the Windows boot screen will become shorter.</p> <ul style="list-style-type: none"> • Since the [Panasonic] boot screen is not displayed, press and hold [F2] or [Del] and turn the computer on to start the Setup Utility. • Select [Diagnostic Utility] in [Exit] menu to start the PC-Diagnostic Utility. <p>By setting [Boot Mode] to [Fast], you can not execute the following operations:</p> <ul style="list-style-type: none"> • The startup from USB devices and LAN. • Operating the Setup Utility or entering the supervisor and user passwords by using the external keyboard.
	The processing speed depends on the software application used, so this operation may not cause the processing speed to increase.



Question	Measure
The computer does not resume.	<p>In the following cases, power on the computer by sliding the power switch. In this case, all unsaved data will be lost.</p> <ul style="list-style-type: none"> • When the AC adaptor and the battery pack was removed in sleep. • When you reattach the peripherals to the computer after removing them. • When you turn the computer off by sliding the power switch for four seconds or longer.
	<p>Connect the AC adaptor and resume the computer. The remaining battery power may be low or the battery may discharge completely.</p>
The drive power remains off when the computer is started up.	<p>In the Setup Utility, [Optical Drive Power] is set to [Off]. Set [Optical Drive Power] to [On]. To set the power always on when the computer is started up, set [Optical Drive Power] to [On]. The sounds from the CD/DVD drive can be heard immediately after the CD/DVD drive is turned on if [Optical Drive Power] is set to [On] on the Setup Utility.</p>
The computer does not power off (Windows does not shut down).	<p>If a peripheral is connected, disconnect it, and then shut down. If it is possible to shut down when the peripheral is disconnected, then there may be a problem with the peripheral. Consult the peripheral manufacturer.</p>
	<p>If it is no longer possible to shut down Windows after installing software application, remove the software application using the following procedure.</p> <ol style="list-style-type: none"> ① Click  (Start) - [Control Panel] - [Uninstall a program]. ② Remove the software application. <p>If it is possible to shut down when the software application is removed, then consult the software application manufacturer.</p>
	<p>Check a disk error using the following procedure:</p> <ol style="list-style-type: none"> ① Remove all peripheral devices (including an external display). ② Click  (Start) - [Computer], right-click [Local Disk (C:)] and click [Properties]. ③ Click [Tools] - [Check now]. If [User Account Control] is displayed, click [Yes]. A standard user needs to enter an administrator password. ④ In [Check disk options], add a check mark for [Automatically fix file system errors] and [Scan for and attempt recovery of bad sectors], and click [Start]. ⑤ At the confirmation message, click [Schedule disk check]. ⑥ Restart the computer. <p>If the disk check does not solve the problem, perform the reinstallation procedure and return the hard disk to its condition in the default setting. (➔ page 81)</p>

Problems with password/message

Question	Measure
Even after entering the password, a message appears requesting to type it again.	If  lights up, press  to disable the ten-key mode, and then input. The [Caution] screen may appear when entering the password in Setup Utility.
	If  lights up, press  to disable the Caps Lock mode, and then input. The [Caution] screen may appear when entering the password in Setup Utility.
Cannot input the character even after pressing a key.	Fn key may be locked. Press  once to unlock the Fn key.
“Enter Password” is displayed.	Enter the supervisor password or user password. If you forget your Supervisor Password, you will not be able to use your computer. Contact technical support office. If you forget your User Password, start up the Setup Utility and enter your Supervisor Password. You can change the User Password.
The password input screen is not displayed.	To display the password input screen when resuming from sleep or hibernation, make the following settings. <ul style="list-style-type: none"> ● To display the password input screen in the Setup Utility <ul style="list-style-type: none"> ① Start up the Setup Utility and set the supervisor password and/or user password in [Security] menu. ② Set [Password On Resume] to [Enabled] or [Auto]. ● To display the Windows log on password input screen (If the Windows log on password is set, a password input screen will be displayed when you log on to Windows.) <ul style="list-style-type: none"> ① Click  (Start) - [Control Panel]. (If the Windows log on password is set, execute steps ⑦-⑪) ② Click [User Accounts and Family Safety]. ③ Click [Change your Windows password]. ④ Click [Create a password for your account]. ⑤ Enter your password, and then click [Create password]. ⑥ Click  (Start) - [Control Panel]. ⑦ Click [System and Security]. ⑧ Click [Change battery settings]. ⑨ Click [Require a password on wakeup]. ⑩ Click [Change settings that are currently unavailable]. If [User Account Control] is displayed, click [Yes]. A standard user needs to enter an administrator password. ⑪ Click [Require a password (recommended)] - [Save changes].
Even after connecting the AC adaptor, a message appears requesting to connect it.	The computer may have switched to battery operation because peak shift control is enabled. To stop the message, disable the peak shift control with one of the following operations. <ul style="list-style-type: none"> ● If Windows is running: In the “Peak Shift Control Utility” screen, click [Enable Peak Shift Control] to remove the check mark. ● If you cannot start up Windows or peak shift control is already disabled: Turn off the computer, remove the AC adaptor and the battery pack, and then reinstall them.
“The ‘MATSHITA DVDXXXXXXXXX’ device can now be safely removed from ...” is displayed.	When the CD/DVD drive power is turned off, the message “The ‘MATSHITA DVDXXXXXXXXX’ device can now be safely removed from ...” will appear, but the CD/DVD drive is an internal device, so it cannot be removed.






Question	Measure
When the administrator password is forgotten.	<p>Log on to Windows with other user account and delete password you forgotten.</p> <ol style="list-style-type: none"> ① Click  (Start) - [Control Panel] - [Add or remove user accounts]. If [User Account Control] is displayed, click [Yes]. A standard user needs to enter an administrator password. ② Click the user account which you forgotten the password and click [Remove the password], then click [Remove Password]. <p>If you don't create other user account, you need to reinstall Windows. When you reinstall Windows, the hard disk data will be erased.</p>
	<p>If you have created a password reset disk, a message is displayed when you fail to correctly enter the password. Follow the message's instructions and set the password again.</p> <p>You cannot change the supervisor password and user password by using a password reset disk. Do not forget your supervisor password and user password. Perform the following to create a password reset disk.</p> <ol style="list-style-type: none"> ① Click  (Start) - [Control Panel] - [User Accounts and Family Safety] and click [User account]. ② Click [Create a password reset disk]. Follow the on-screen instructions and save the password reset disk for future use.
Windows does not start up and numbers or messages appear.	<p>This is a system startup error. Refer to “Error Message” (→ page 89) .</p>
	<p>If “Remove disks or other media. Press any key to restart” is displayed: → page 65</p>


Problems with Battery

Question	Measure
The battery operating time is short.	The operating time varies depending on the usage conditions, setting of battery's Economy Mode (ECO), or the power plan. (→ page 36)
You do not know the lifetime of the battery.	<p>If the battery operation time becomes noticeably short, replace with a new battery.</p> <p>When the automatic display function for the PC Information Popup is enabled, the small popup screen [x Notifications About Battery] is displayed if there is any information on how to use the battery pack.</p> <p>Click [x Notifications About Battery] to confirm the information on how to use the battery pack.</p>
The battery pack is not charged.	<p>The computer may have switched to battery operation because peak shift control is enabled. To charge the battery, disable the peak shift control with one of the following operations.</p> <ul style="list-style-type: none"> ● If Windows is running: In the "Peak Shift Control Utility" screen, click [Enable Peak Shift Control] to remove the check mark. ● If you cannot start up Windows or peak shift control is already disabled: Turn off the computer, remove the AC adaptor and the battery pack, and then reinstall them.
The battery indicator  lights red.	<p>The remaining battery power is very low (the charge is approx. 9 % or less).</p> <p>Connect the AC adaptor. You can use the computer when the battery 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.</p>
The battery indicator  is blinking.	<p>If blinking red:</p> <p>Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact your technical support office. The battery pack or charging circuit may be defective.</p>
	<p>If blinking orange:</p> <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.
[Executing Battery Recalibration] screen appears.	<p>The Battery Recalibration was canceled before Windows was shut down last time.</p> <ul style="list-style-type: none"> ● To start up Windows, turn off the computer by the power switch, and then turn on.

Problems with Cursor/Display

Question	Measure
The cursor cannot be controlled properly.	Make sure [Touch Pad] is set to [Enabled] on the [Main] menu of the Setup Utility.
	Uninstall an external mouse driver by using the keyboard. <ol style="list-style-type: none"> ① Log on to Windows as an administrator and press [R] holding down [C]. ② Enter "devmgmt.msc" and press [Enter]. ③ Press [Tab] and press [↓] several times to select [Mice and other pointing devices], and then press [Enter]. ④ If a name other than [Synaptics PS/2...] is displayed, delete an external mouse driver. ⑤ At the confirmation message, press [Enter]. If the confirmation message is not displayed, restart Windows by using the keyboard. If the computer does not respond to keyboard, slide and hold the power switch for more than four seconds and slide it again. ⑥ Press [R] holding down [C]. ⑦ Enter "c:\util\drivers\mouse\setup.exe" and press [Enter]. ⑧ Follow the on-screen instructions and install Synaptics mouse driver.
	If you add a check mark for [Disable internal pointing device when external USB pointing device is attached] in [Mouse Properties], the touch pad will be disabled when you connect a USB mouse. <ul style="list-style-type: none"> • Remove the USB mouse to enable the touch pad. • Remove the check mark from [Disable internal pointing device when external USB pointing device is attached] and click [OK].
The cursor moves randomly.	Check that no external mouse driver is installed. Refer to steps ① and ⑤ under "The cursor cannot be controlled properly". (above)
	Adjust the sensitivity when touching the touch pad. (→ page 28)
The cursor cannot be moved with a connected mouse.	Check that the mouse is correctly connected.
	Install the driver for the connected mouse. If the mouse driver is installed, it may not possible to use the Touch Pad.
	Set [Touch Pad] to [Disabled] in the [Main] menu of the Setup Utility.
	Consult the mouse manufacturer. (In some cases, later versions may be available.)
There is an afterimage.	Display a different screen. If the same screen is displayed for a long time, this may leave an afterimage.
The touch pad is disabled when you connect a USB mouse.	Remove the check mark from [Disable internal pointing device when external USB pointing device is attached] in [Mouse Properties] and click [OK]. (→ page 29)
Screen is too dark or becomes darker.	Press [Fn] + [F1] or [Fn] + [F2] [Fn] + [F1] :This makes the screen darker. [Fn] + [F2] :This makes the screen lighter. → page 25
There are red, green, or blue dots on the screen, or there is unevenness in colors and brightness on the screen.	The following are not malfunctions. <ul style="list-style-type: none"> • Although advanced high-precision technologies are used in the production of color LCD screens, 0.002 % or less of the picture elements may be dark or remain constantly lit (i.e., more than 99.998 % of elements function properly). • Due to the natural characteristics of LCD screens, you may notice unevenness in colors and brightness depending on your angle of view. Hues may also vary by product.

Question	Measure
The screen becomes disordered.	<p>Restart the computer. The screen display may become distorted if the resolution or number of colors is changed, or if an external display is connected or disconnected while the computer is operating.</p>
	<p>Try setting the refresh rate to 40 Hz in the following procedure.</p> <ol style="list-style-type: none"> ① Right-click the desktop, and click [Graphics Properties]. If "Select one of the following application modes:" appears, select a mode and click [OK]. ② Click [Multiple Displays] - [Clone Displays]. If [Clone Displays] is not displayed, connect a external display. ③ Click [General Settings]. ④ Set [Display] to [Built-in Display]. If [Refresh Rate] of the [Built-in Display] is [40 Hz], change to [60 Hz] and click [OK]. ⑤ At the confirmation message, click [OK].
The images appearing on the screen will be stretched.	<p>When setting the screen resolution to a resolution below the LCD's resolution, the images appearing on the screen will be stretched. As a result, the characters displayed may appear blurred. This is normal, and not indicative of a malfunction. To display large characters with no blurring, try the following steps while keeping the LCD in its resolution.</p> <ul style="list-style-type: none"> • Click  (Start) - [Control Panel] - [Appearance and Personalization] - [Display], select except for [Smaller - 100%] and then click [Apply]. (Click [Log off now] or [Log off later]. This function will be enabled after log off the computer.) • To display enlarged font sizes in software applications such as Internet Explorer: Use the display enlargement function provided by the specific software application. • To display enlarged desktop icons, title bar and cursor or magnify the specific part of the screen: Use Optimized View or Loupe Utility.
Screen became black for instant.	<p>Screen becomes black for instant in the following cases. This is not a malfunction. Continue using the computer as it is.</p> <ul style="list-style-type: none"> • When you log on to Windows or log off Windows. • When you use the Fast User Switching function.
	<p>If [User Account Control] is displayed, a part of the screen will become black. If [User Account Control] is displayed, click [Yes]. A standard user needs to enter an administrator password.</p>
	<p>If [Display power saving function] is enabled in the Power Plan Extension Utility, the screen may become black for an instant when the following operations or settings are performed, but this is not a malfunction. You can continue to use the computer.</p> <ul style="list-style-type: none"> • The screen brightness is adjusted with  +  /  + . • The AC adaptor is disconnected and inserted. • Peak shift control is enabled in the Peak Shift Control Utility, and a check mark is added to [Link with Power Plan]. <p>If an error screen is displayed or the software does not operate correctly when software applications such as video playback software or graphics benchmark software are used, disable [Display power saving function] in the Power Plan Extension Utility, or remove the check mark from [Link with Power Plan] in the Peak Shift Control Utility.</p>

Question	Measure
Nothing is displayed on the screen.	<p>If the power indicator is lit, the display is turned off. Press a key with no independent effect, such as Ctrl or Shift. Do not use a key that may make a selection (Enter, Space, Esc, Y, N, numeric keys, and so on).</p>
	<p>The display destination may be set to the external display. Try changing the display destination by pressing Fn + F3 or ⌘ + P. If you want to switch the display destination repeatedly by pressing Fn + F3 or ⌘ + P, make sure that the display destination has switched completely each time before pressing Fn + F3 or ⌘ + P again.</p>
	<p>The screen may become darker. Press Fn + F2 to make the screen brighter. (→ page 25)</p>
	<p>If the power indicator  is blinking or is not lit, the sleep or hibernation is entered. Slide the power switch.</p>
	<p>If an additional RAM module has been inserted or changed, RAM module may be inserted correctly. Power off your computer, check that the RAM module is the recommended module, and insert it the module correctly. If the problem persists, contact your technical support office.</p>

Problems with Recovery Disc (Product Recovery DVD-ROM)

Question	Measure
Product Recovery DVD-ROM is not attached.	You can make a Recovery Disc for Windows 7 by using the Recovery Disc Creation Utility. Refer to <i>Preparation and Setting Guide</i> “Create a Recovery Disc”.
You do not know the making method of the Recovery Disc.	Refer to <i>Preparation and Setting Guide</i> “Create a Recovery Disc”.

If the hardware installed in this computer is not operating properly, you can use the PC-Diagnostic Utility to determine whether or not there is a problem.

If the utility discovers a problem in the hardware, contact your technical support office.

Hardware that can be checked using the PC-Diagnostic Utility

Hardware	Menu
CPU	CPU/System
Memory	RAM xxxx MB
Hard Disk	HDD xxx GB
Internal CD/DVD Drive	DVD-ROM
Video Controller	Video
Sound	Sound
LAN	LAN
Wireless LAN	Wireless LAN
USB 2.0 port	USB
PC Card Controller	PC Card
SD Card Controller	SD
Keyboard	Keyboard
Touch Pad	Touch Pad

- When the video diagnostic check is running, the display may flicker heavily or be distorted. When the audio diagnostic check is running, sounds such as a loud beep may be generated from the speaker. These are not malfunctions.
- Software cannot be checked using this utility.
- The USB 3.0 port cannot be checked using this utility.

Regarding the PC-Diagnostic Utility

We recommend that you use the touch pad for operations. When not using the touch pad, you can operate using the internal keyboard instead.

Operations	Touch pad operations	Internal keyboard operations
Select icon	Place the cursor above the icon	Press (Space), and then press ([close] cannot be selected)
Click the icon	Tap or click (right click cannot be used)	Press (Space) above the icon
Complete the PC-Diagnostics Utility and then restart the computer	Click [close].	Press + + .

If the touch pad does not operate properly, press + + to restart the computer, or press the power switch to turn the computer off, and then restart the PC-Diagnostic Utility.

Running the Diagnostic Check

Run this utility after having set each setting for default settings in the Setup Utility.

If the Setup Utility or other settings will not allow hardware to be executed, the hardware icon will be displayed in gray.

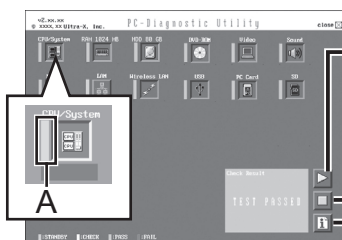
- 1 Remove all peripherals.**
- 2 Connect the AC adaptor.**
During the diagnostic check, do not remove the AC adaptor, or attach any peripheral devices.
- 3 Turn on the computer.**
If Windows had been started up, click (Start) - [Shut down] and turn on the computer again.
- 4 Press or while [Panasonic] boot screen is displayed to start up the Setup Utility.**
If the [Panasonic] boot screen is not displayed, turn on the computer while holding down or . Hold down or until the Setup Utility screen appears.
 - If you are using the computer after changing the settings from the status at the time of purchase, we recommend that you make a note of the settings that are changed.
 - If the password is requested, enter the Supervisor Password and press .
- 5 Press .**
At the confirmation message, select [Yes] and press .
- 6 Set [Optical Drive Power] to [On] in [Main] menu.**
- 7 Press .**
At the confirmation message, select [Yes] and press .
- 8 Press or while [Panasonic] boot screen is displayed to start up the Setup Utility.**

9 Select the [Main] menu.

10 Select [Diagnostic Utility].

When the PC-Diagnostic Utility starts up, it will automatically begin the diagnostic check for all hardware components.

The touch pad and the internal keyboard may not be used when each hardware checking is running. While checking, blue and yellow colors are displayed on the left side of the hardware icon (A).



By clicking the icon, you can execute the following operations:

Start the diagnostic check from the beginning

Stop the diagnostic check (You cannot restart the check partway through by clicking)



Display help (click the screen or press (Space) to return to the original diagnostic check screen)

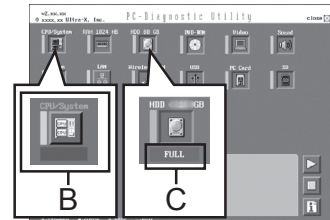
- You can check the status of the diagnostic check by the display color on the left side of the hardware icon (A).
 - Aqua: Not running diagnostic check
 - Alternating blue and yellow: Currently running diagnostic check. The interval of the alternating colors differs depending on the type of diagnostic check currently running.
 - During memory diagnostic check, the display may freeze for a long period of time. Wait until the process is complete.
 - Green: No problems discovered
 - Red: Problems discovered
- The diagnostic check may require a longer period of time if you use the computer in a high ambient temperature.



NOTE

- Using the following procedure, you can run a diagnostic check on a specified hardware component.

- Click  to stop the diagnostic check.
- Click the icon for the hardware that is not to be checked, so that the icon is displayed in gray (B).
When running a check on the hard disk, the keyboard, or touch pad, clicking the icon once will turn on the extended diagnostic check ("FULL" (C) will be displayed below the icon); click again.
- Click  to start the diagnostic check.

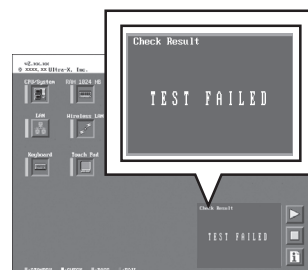


- You can use the extended diagnostic check for the hard disk, keyboard and touch pad. (You do not need to perform the extended diagnostic check for the keyboard and touch pad in normal use.). The extended diagnostic check on the hard disk is more detailed, and so requires a longer period of time to run.
- You can also run the diagnostic check using the following procedure.
 - Execute step 7.
 - Press **Ctrl** + **F7** while [Panasonic] boot screen is displayed.
 - If the [Panasonic] boot screen is not displayed, turn on the computer while holding down **Ctrl** + **F7**.
 - Release your finger when [Please wait...] is displayed. If you continue pressing **Ctrl** + **F7**, the cursor may not be displayed.

11 When all the hardware has been checked, confirm the diagnostic check results.

If the display is red and the message “Check Result TEST FAILED” is displayed, you can assume that there is a problem with the computer’s hardware. Confirm which hardware component is displayed as red, and contact your technical support office.

If the display is green and the message “Check Result TEST PASSED” is displayed, the computer’s hardware is operating normally. Continue using the computer as it is. If the computer still does not operate properly, reinstall the software (→ page 81).



NOTE

If you run a memory diagnostic check after installing a new RAM module (sold separately) and the message “Check Result TEST FAILED” is displayed:

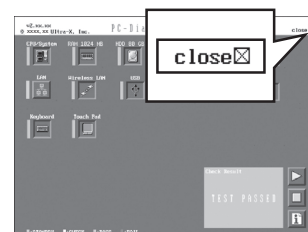
Remove the additional RAM module and run the diagnostic check again. If the message “Check Result TEST FAILED” is still displayed, you can assume that there is a problem with the internal RAM module.

12 After the diagnostic check is complete, click [close], or press **Ctrl** + **Alt** + **Del** to restart the computer.



CAUTION

The CD/DVD drive is noisy when [Optical Drive Power] is set to [On] in the [Main] menu of the Setup Utility.



When the Icon Becomes Gray and the Corresponding Device Cannot Be Checked


Follow the instructions below. If the problem persists, contact your technical support office.

Cause	Measure (Perform the following operation and run the diagnostic check again)
The device is disabled in the Setup Utility:	Set the device to [Enabled] in the Setup Utility.
[Optical Drive Power] is set to [On] in the [Main] menu of the Setup Utility:	Set [Optical Drive Power] to [On] in the Setup Utility.
The SD icon is gray: The computer is not recognize the device temporarily.	Turn off the computer and turn on it again.
The USB icon is gray: The USB 2.0 port is disabled, or the USB 3.0 port is damaged.	Set [USB Port] to [Enabled] in the [Main] menu of the Setup Utility. If the icon remains gray, the USB 3.0 port may be damaged.

[Create a system image] and [System Image Recovery] in [System Recovery Options] allow you create a backup of the entire hard disk data, which can be used to recover from hardware failure.

Creating a Backup of the Hard Disk Data


To create a backup of the entire hard disk to another storage media (e.g., external hard disk): Follow the steps below.

- ① Click  (Start) - [Control Panel] - [Back up your computer].
- ② Click [Create a system image].
- ③ Select a location for backup and click [Next].
Follow the on-screen instructions.

Restoring the Hard Disk Data

To restore the image data backed up using [Create a system image], use [System Image Recovery] in [System Recovery Options].

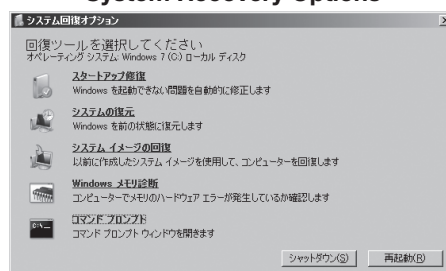
Follow the steps below.

- If Windows starts up correctly
 - ① Click  (Start) - [Control Panel] - [Back up your computer].
 - ② Click [Recover system settings or your computer].
 - ③ Click [Advanced recovery methods].
 - ④ Click [Use a system image you created earlier to recover your computer].
A standard user needs to enter an administrator password.
 - ⑤ If you backup your files, click [Back up now].
Follow the on-screen instructions.
If you do not backup your files, click [Skip].
 - ⑥ Click [Restart].
The computer will restart.
If [Enter Password] is displayed during the following procedure, input the Supervisor Password or the User Password.
 - ⑦ Click [Next].
Do not specify keyboard layouts other than the one already selected.
 - ⑧ If [Windows cannot find a system image on this computer] appears, connect the storage media (e.g. external hard disk) on which the system image has been backed up, and then click [Retry].
 - ⑨ Click [Next].
Follow the on-screen instructions.
- If Windows does not start up
Run [System Recovery Options] and then click [Restore System Image] (→ page 80).

About [System Recovery Options]

System Recovery Options provides functions for re-enabling startup when Windows can no longer be started up correctly, such as by repairing the system files.

System Recovery Options



There are the following functions in System Recovery Options.

Startup Repair	Resolves the problem if Window does not start up correctly, such as when system files are missing.
Restore System	Returns the computer to a state where the system files were running correctly. You can restore the system files only, without changing your personal files (such as documents or e-mail).
Restore System Image	Restores Windows using a backed up system image.
Windows Memory Diagnostic Check	Checks whether a hardware error occurred in the memory.
Command Prompt	Opens the Command Prompt window.

Start up System Recovery Options in the following procedure.

- To perform from [Advanced Boot Options]
 - ① Connect the AC adaptor.
 - ② Turn on the computer, and when [Panasonic] boot screen disappears, press and hold **[F8]**.
 - Release your finger when [Advanced Boot Options] is displayed.
 - If [Advanced Boot Options] is not displayed, use the Recovery Disc. (➔ below)
 - If [Enter Password] is displayed during the following procedure, input the Supervisor Password or the User Password.
 - ③ Press **[↑]** **[↓]** to select [Repair Your Computer] and press **[Enter]**.
 - ④ Click [Next].
 - Do not specify keyboard layouts other than the one already selected.
 - ⑤ Select the user name registered on Windows.
 - ⑥ Input the password, then click [OK].
- To perform from the recovery disc
 - ① Execute steps 1-9 “Using Recovery Disc” (➔ page 85)
 - ② Click [Run “System Recovery Options”] and click [Next].
 - ③ Click [Next].
 - Do not specify keyboard layouts other than the one already selected.
 - ④ Click [Next].
- To use a system repair disc you created

When a Windows version (32-bit or 64-bit) is installed that is different from the versions of the Recovery Disc, [System Recovery Options] cannot be displayed using the Recovery Disc. Use a system repair disc that you created in advance. (➔ page 84)

The display method for [System Recovery Options] is the same as in “To perform from the Recovery Disc” (➔ above). On start-up from a Recovery Disc, a message is displayed that prompts you to press a key. After pressing a key, follow the on-screen instructions to display System Recovery Options.

What is “Reinstallation”?

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

When reinstalling Windows using the data of the recovery area on the hard disk, you can select the OS to be installed (either Windows 7 (32-bit) or Windows 7 (64-bit)).

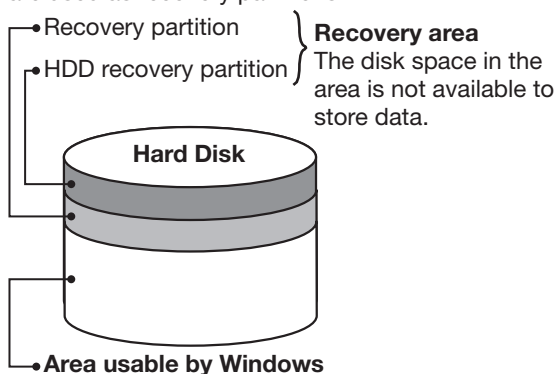
When reinstallation procedure is performed, the contents of the hard disk will be erased. Be sure to back up data on your hard disk to another media or to an external hard disk before running the reinstallation procedure.

- When the hard disk has already been divided into several partitions, you can keep the partition for data.

CAUTION

Do not delete the recovery area on the hard disk.

The recovery partition and HDD recovery partition are used as recovery partitions.



- The recovery data cannot be backed up to other media. Nor can it be backed up to an external hard disk or other devices.

If the recovery area become corrupted or you cannot reinstall from the hard disk, use the Recovery Disc. (→ page 85)

- Dynamic disks (a type of disk management system) are not supported for hard disk recovery. Do not convert to a dynamic disk.

Reinstallation Procedure

Back up data on your hard disk.



Make a note of the network's settings, user name, and password.



Return the Setup Utility settings to their default values.



Execute reinstallation (Approx. 15 minutes).



Setup Windows.



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



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

Preparation

Remove all peripherals and SD memory cards.

Especially, when a USB floppy disk drive, a USB CD/DVD drive, or an external hard disk drive is connected, the reinstallation does not operate properly. Remove them.

CAUTION

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

Reinstalling

CAUTION

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

1 Back up important data to a location other than the hard disk (an external hard disk or other media).

When reinstallation procedure is performed, the contents of the hard disk will be erased.

- If you have created partitions for data, the data may be erased or become corrupt as a result of an unexpected malfunction, incorrect operation, or other reason.

2 Make a note of the network's settings.

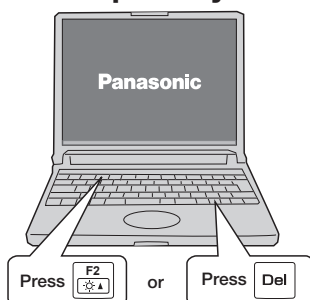
When reinstallation procedure is performed, the network's settings will be erased.

3 Make a note of your user name and password.

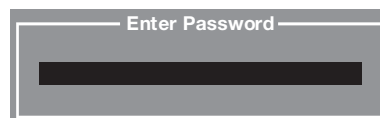
When reinstallation procedure is performed, your user name and Windows password will be erased.

4 Turn off the computer, and connect the AC adaptor.

5 Turn on the computer, and press **[F2]** or **[Del]** while **[Panasonic]** boot screen is displayed to start up the Setup Utility.



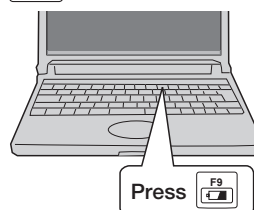
- If the **[Panasonic]** boot screen is not displayed, turn on the computer while holding down **[F2]** or **[Del]**. Hold down **[F2]** or **[Del]** until the Setup Utility screen or password input screen appears.
- When the password is set, **[Enter Password]** will be displayed. Enter supervisor password, and press **[Enter]**.



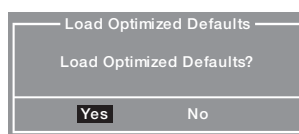
You cannot set default settings (except the password, System Time and System Date) with a User Password.

- If you change the settings from that at the time of purchase, we recommend that you make a note of the settings that are changed.

6 Press **[F9]**.



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



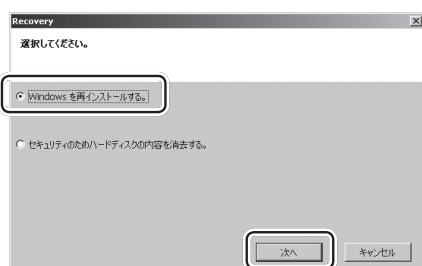
8 Press **[F10]**, and then select **[Yes]** at the confirmation message and press **[Enter]**.

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

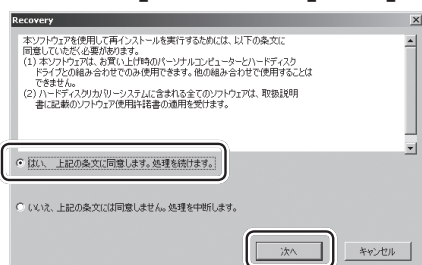
If the password has been set, enter the Supervisor Password, and press **[Enter]**.

- 9 Press **[F2]** or **[Del]** while **[Panasonic]** boot screen is displayed to start up the Setup Utility.
- 10 Using either **[←]** or **[→]**, select **[Exit]**.
- 11 Using either **[↑]** or **[↓]**, select **[Repair Your Computer]** and press **[Enter]**.
- 12 Click **[Reinstall Windows]** and click **[Next]**.

If you select **[Cancel]**, the reinstallation will be canceled.

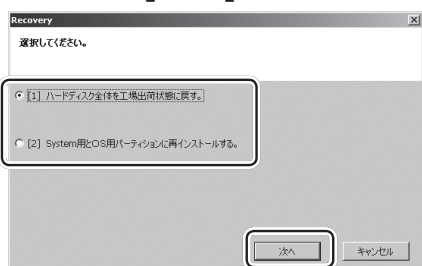


- 13 Click **[Yes, I agree to the provisions above and wish to continue!]** and click **[Next]**.

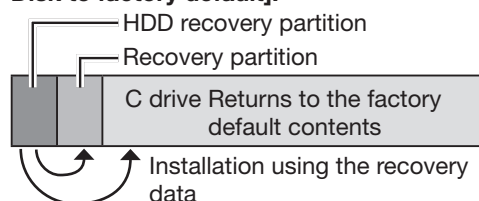


(All of the screens below are only examples.)

- 14 Make a selection from the menu and click **[Next]**.



- **[Reinstall Windows to the whole Hard Disk to factory default].**



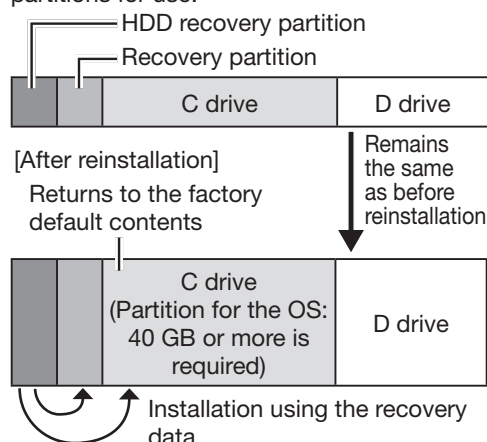
Select this option when you want to reinstall Windows to the factory default. After reinstallation, you can create a new partition. For how to create a new partition, refer to “Changing Hard Disk Partitions” (→ page 61)

- **[Reinstall to the System and OS partitions.].**

Select this option when the hard disk has already been divided into several partitions. For how to create a new partition, refer to “Changing Hard Disk Partitions” (→ page 61).

[Before reinstallation]

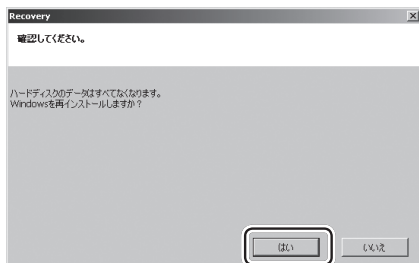
The hard disk is divided into multiple partitions for use.



Select this option if the hard disk is divided into multiple partitions for use, you do not want to change the hard disk configuration, and you want to preserve the data on the partitions other than the C drive.

Data may be erased by unexpected malfunctions or incorrect operations. Be sure to back up the data in advance. If Windows cannot be reinstalled to the system partition and OS partition, the **[2] Reinstall to the System and OS partitions.]** item is not displayed.

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



- 16** Select OS (32bit or 64bit) and click [OK].

- 17** Click [OK].


- Reinstallation starts.
- Do not interrupt reinstallation, for example by turning off the computer.

- 18** When ending screen is displayed, click [OK].

The computer is turned off.

- 19** Turn on the computer and perform the “First-time Operation” (→ *Preparation and Setting Guide*).


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

- 21** If you can connect to the Internet, click  [Start] - [All Programs] - [Windows Update] to perform Windows Update.

- If a Windows version (32-bit or 64-bit) is selected in step 16 that is different from the versions of the Recovery Disc, create a system repair disc (example: the Recovery Disc is for the 64-bit version, but the 32-bit version was installed). The system repair disc is used in cases such as when [System Recovery Options] cannot be started up from the hard disk.

If the same Windows version as the Recovery Disc was installed, you do not need to create a system repair disc.

Creating a system repair disc:

- ① Click  (Start) - [Control Panel] - [Back up your computer].
- ② Click [Create a system repair disc].
- ③ Set a disc into the CD/DVD drive and click [Create disc].

When creating the system repair disc is completed, click [Close].

Refer to “Hard Disk Backup/Restore Function” (→ page 80) to display [System Recovery Options].

CAUTION

- When using a model with Microsoft® Office preinstalled
 - If you reinstall Windows using the HDD recovery partition data on the hard disk or the Recovery Disc that you created, the Microsoft® Office software application is also installed. You do not need to perform setup using the Microsoft® Office disc.

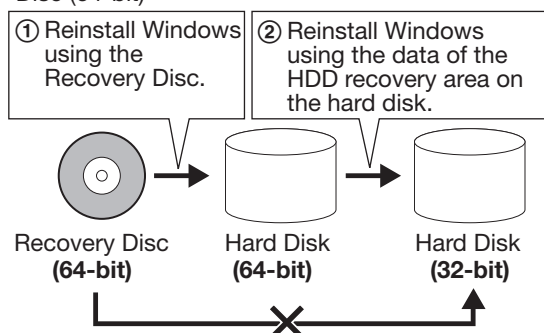
Using Recovery Disc

Use the Recovery Disc for reinstallation in the following conditions.

- You have forgotten the administrator password.
- Reinstallation is not complete. The recovery area may be broken.

When reinstalling Windows using the Recovery Disc, you can not select the OS to be installed (either Windows 7 (32-bit) or Windows 7 (64-bit)).

- When reinstalling Windows using the Recovery Disc (64-bit)



You can erase the data or display [System Recovery Options] with the following procedure.

CAUTION

- After reinstalling, you can create another recovery disc.
If you created multiple Recovery Discs and use these recovery discs for reinstallation, use the 2nd disc that was created at the same time as the 1st disc (or 2nd disc and 3rd disc, depending on the model).
If Recovery Discs created at different times are mixed, such as using a 1st disc that was created before reinstallation with a 2nd disc that was created after reinstallation, correct reinstallation may not be possible.

1 Execute steps 1-4 “Reinstalling” (→ page 82).

2 Turn on the computer, and press **[F2]** or **[Del]** while [Panasonic] boot screen is displayed to start up the Setup Utility.

- When the password is set, [Enter Password] will be displayed. Enter supervisor password, and press **[Enter]**.
You cannot set default settings (except the password, System Time and System Date) with a user password.

3 Press **[F9]**.

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

4

- ① Select [Main] menu using **[←]** or **[→]**.
- ② Select [Optical Drive Power] using **[↑]** or **[↓]**, and press **[Enter]**.
- ③ Select [On] and press **[Enter]**.

5

Press **[F10]**, and then select [Yes] and press **[Enter]**.

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

If the password has been set, enter the Supervisor Password, and press **[Enter]**.

6

Press **[F2]** or **[Del]** while [Panasonic] boot screen is displayed to start up the Setup Utility.

7

Set the Recovery Disc into the CD/DVD drive.

- When the disk cover does not open:
 - ① Set [Optical Drive] to [Enabled] and [Optical Drive Power] to [On].
 - ② Press **[F10]**, and then select [Yes] and press **[Enter]**.
 - ③ Press **[F2]** or **[Del]** while [Panasonic] boot screen is displayed to start up the Setup Utility.

8

Select [Exit] using **[←]** or **[→]**.

9

Select the CD/DVD drive name (example:MATSHITA) in [Boot Override] using **[↑]** or **[↓]** and press **[Enter]**.

- If you do not know your drive name, confirm with the following procedure.
 - ① Select [Boot] menu.
 - ② Select [Boot Option #1] and press **[Enter]**.
 - ③ Select [Optical Drive] and press **[Enter]**.
 - ④ Press **[F10]**, and then select [Yes] and press **[Enter]**.
- It may take some time before the next screen is displayed.

10

Click [Reinstall Windows] and click [Next].

If you select [Cancel], the reinstallation will be canceled.

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

12 Make a selection from the menu and click [Next].

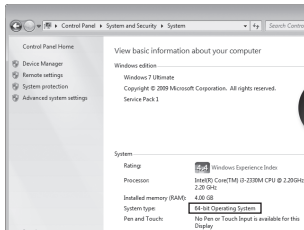
- The partition structure differs depending on the method of reinstalling.
- Follow the on-screen instructions.
- According to the screen, replace the Recovery Disc.
- Click [Erase the whole data on the Hard Disk for security] in step 10 to erase hard disk data.

Confirm the system type of Windows

You can confirm the system type of Windows using the following procedure.

1 Click  (Start) - [Computer].

2 Click [System properties].
Confirm the [System type].



When Disposing of This Computer

When disposing of or transferring ownership of this computer, erase all data on the hard disk in order to prevent the theft of hard disk data. To erase all data, use the hard disk data erase utility.

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

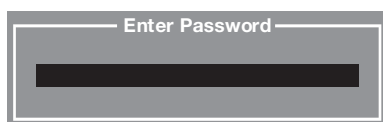
Before Erasing Data

Confirm the followings

- Be sure the AC adaptor is connected until the procedure is completed.
- It may take approx. 1 hour - 9 hours for operations to erase data.
- This utility can only be used for internal hard disk. It cannot be used to erase data from external hard disks.
- After executing this utility, the computer cannot be booted from the hard disk.
- This utility cannot erase data from damaged disk.
- This utility cannot erase data for specific partitions.
- The repair area will not be erased.

Completely Erasing Data

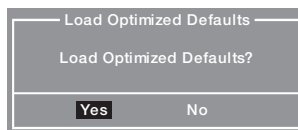
- 1 Connect the AC adaptor.**
- 2 Turn on the computer and press **[F2]** or **[Del]** while **[Panasonic]** boot screen is displayed to start up the Setup Utility.**
If the **[Panasonic]** boot screen is not displayed, turn on the computer while holding down **[F2]** or **[Del]**. Hold down **[F2]** or **[Del]** until the Setup Utility screen appears.
 - When the password is set, **[Enter Password]** will be displayed. Enter supervisor password, and press **[Enter]**.



You cannot set default settings (except the password, System Time and System Date) with a User Password.

- 3 Press **[F9]**.**

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



- 5 Press **[F10]**, and then select **[Yes]** and press **[Enter]**.**

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

If the password has been set, enter the Supervisor Password, and press **[Enter]**.

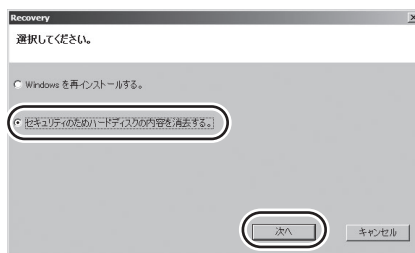
- 6 Press **[F2]** or **[Del]** while **[Panasonic]** boot screen is displayed to start up the Setup Utility.**

- 7 Select **[Exit]** using **[←]** or **[→]**.**

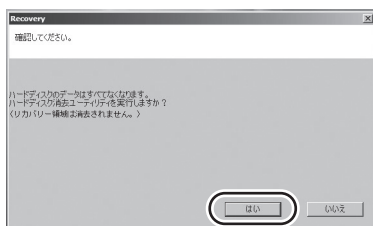
- 8 Select **[Repair Your Computer]** using **[↑]** or **[↓]**, and press **[Enter]**.**

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

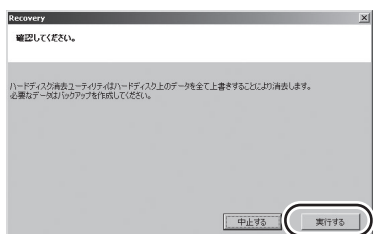
If you select **[Cancel]**, the reinstallation will be canceled.



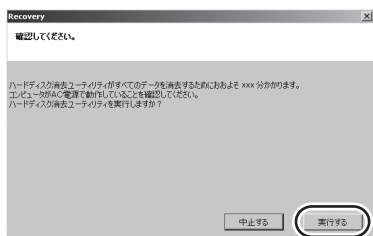
- 10** At the confirmation message, click [Yes].



- 11** Click [Continue].



- 12** Click [Continue] again.



- 13** Click [YES].

Erasing the hard disk data starts.

- 14** After erasing is completed, click [OK].

- The computer is turned off.
- If a problem occurred during the operation, an error message will be displayed.

Error Message

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

Error	Message Solution
Bad System CMOS	<p>An error has occurred in the memory of system settings. This occurs when the memory content is changed by an unexpected program operation, etc.</p> <ul style="list-style-type: none"> ● Start the Setup Utility and return the settings to the default values, and then change the settings as necessary. ● If the problem persists, the internal clock battery may need to be replaced. Contact your technical support office.
System CMOS Checksum Error	
Invalid Year. System date restored to 01/01/20XX	<p>The date and time settings are not correct.</p> <ul style="list-style-type: none"> ● Start the Setup Utility and set the correct date and time. ● If the problem persists, the internal clock battery may need to be replaced. Contact your technical support office.
Error Hard disk access is prohibited by "Hard Disk Lock"	<ul style="list-style-type: none"> ● Run the Setup Utility, and set [Hard Disk Lock] to [Disabled].
Press <F2> to enter setup	<ul style="list-style-type: none"> ● Write down the error details and press [F2] or [Del] to start the Setup Utility. Change the settings if necessary.
Reboot and Select proper Boot device or Insert Boot Media in selected Boot device and press a key	<p>The computer cannot be booted from the floppy disk or the hard disk.</p> <ul style="list-style-type: none"> ● Remove the floppy disk drive. ● Confirm [Hard Disk] of [Information] menu in the Setup Utility. <ul style="list-style-type: none"> • If [xxx GB] is displayed, reinstall Windows. • If [None] is displayed, contact your technical support office. ● Remove the USB device or set [Legacy USB Port] to [Disabled] in the Setup Utility.
Disk error Press any key to restart	

Starting the Setup Utility: ➔ page 49

Specifications

This computer is designed for Japan only

● Main Specifications

Model No.		CF-S10TYUUP
CPU		Intel® Core™ i3-2330M processor (Intel® Smart Cache 3 MB*1, 2.20 GHz)
Chip Set		Mobile Intel® HM65 Express Chipset
Main Memory		4 GB*1, DDR3 SDRAM (8 GB Max.*1)*2
Video Memory		UMA (1696 MB*1 Max.)*3
Video Controller		Intel® HD Graphics 3000 (Built-in CPU)
Hard Disk Drive*4		500 GB Approx. 12 GB (HDD recovery partition) and Approx. 300 MB (recovery partition) are used as recovery partitions. (Users cannot use these partitions.)
CD/DVD Drive		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*9: 5X (Max.) •DVD-R*10: 8X (Max.) •DVD-RW: 8X (Max.) •DVD-R DL: 8X (Max.) •DVD-ROM: 8X (Max.) •CD-ROM: 24X (Max.) •CD-R: 24X (Max.) •CD-RW: 24X (Max.) •+R: 8X (Max.) •+R DL: 8X (Max.) •+RW: 8X (Max.) •High Speed +RW: 8X (Max.) •High-Speed CD-RW: 24X(Max.) •Ultra-Speed CD-RW: 24X (Max.)
	Writing*8	<ul style="list-style-type: none"> •DVD-RAM*9: 2X/3X/3-5X •DVD-R: 2X/3.3-4X/3.3-6X/3.3-8X •DVD-RW: 1X/2X/2-4X/2-6X •+R: 2.4X/3.3-4X/3.3-6X/3.3-8X •+RW: 2.4X/2.4-4X •High Speed +RW: 3.3X/3.3-6X •CD-R: 8X/8-12X/8-16X/10.8-24X •CD-RW: 4X •High-Speed CD-RW: 4X/8X/10X
Supported Discs/Format*6	Reading	<ul style="list-style-type: none"> •DVD-ROM (Single Layer, Dual Layer) •DVD-Video •DVD-R*10 (1.4 GB, 2.8 GB, 4.7 GB)*4 •DVD-RW (Ver.1.1/1.2 1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)*4 •DVD-R DL (8.5 GB)*4 •DVD-RAM*9 (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)*4 •+R (4.7 GB)*4 •+R DL (8.5 GB)*4 •+RW (4.7 GB)*4 •CD-Audio •CD-ROM (XA compatible) •CD-R •Photo CD (multiple session compatible) •Video CD •CD EXTRA •CD-RW •CD-TEXT •High Speed +RW (4.7 GB)*4 •High-Speed CD-RW •Ultra-Speed CD-RW
	Writing	<ul style="list-style-type: none"> •DVD-RAM*9 (1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)*4 •DVD-R (1.4 GB, 2.8 GB, 4.7 GB for General)*4 •DVD-RW (Ver.1.1/1.2 1.4 GB, 2.8 GB, 4.7 GB, 9.4 GB)*4 •+R (4.7 GB)*4 •+RW (4.7 GB)*4 •CD-R •CD-RW •High Speed +RW (4.7 GB)*4 •High-Speed CD-RW
Display Method		12.1 WXGA type (16:10) (TFT) (1280 × 800 dots)
Internal LCD		1280 × 800 dots : 16,777,216 colors*11
External Display*12		800 × 600 dots/1024 × 768 dots/1280 × 720 dots/1280 × 768 dots/1280 × 1024 dots/1400 × 1050 dots/1600 × 900 dots/1600 × 1200 dots/1680 × 1050 dots/1920 × 1080 dots/1920 × 1200 dots : 16,777,216 colors
Simultaneous Display on LCD + External Display*12		800 × 600 dots/1024 × 768 dots/1280 × 720 dots/1280 × 768 dots/1280 × 800 dots : 16,777,216 colors*11
Wireless LAN/WiMAX		Intel® Centrino® Advanced-N + WiMAX 6250 Wireless LAN: IEEE802.11a (W52/W53/W56)/b/g/n*13 (➔ page 95) WiMAX:IEEE802.16e-2005 (➔ page 95)
LAN*14		10BASE-T/100BASE-TX/1000BASE-T
Modem		—
Sound		WAVE and MIDI playback, Intel® High Definition Audio subsystem support, Monaural Speakers (built in)
Security Chip		TPM (TCG V1.2 compliant)*15

Model No.			CF-S10TYUUP
Card Slots			PC Card Slot × 1, Type I or Type II (CardBus compatible/Allowable current 3.3 V : 400 mA, 5 V : 400 mA)
			SD Memory Card Slot* ¹⁶ × 1 (SDHC/SDXC/Supports copyright protection technology/Supports UHS-I high-speed transmission)
RAM Module Slot			DDR3 SDRAM, 204-pin, 1.5 V, SO-DIMM, PC3-8500 Compliant
Interface			USB 2.0 × 2 (Left side)* ¹⁷ , USB 3.0 × 1 (Right side)* ¹⁸ /LAN Port (RJ-45)* ¹⁴ /External Display Port (VGA): Mini Dsub 15-pin female/HDMI Port* ¹⁹ /Microphone Jack* ²⁰ : Miniature jack, 3.5 DIA/Headphone Jack: Miniature jack, 3.5 DIA
Keyboard/Pointing Device			83 keys/Key pitch 19 mm/16 mm/Touch Pad
Power Supply			AC adaptor or Battery pack
AC Adaptor* ²¹			Input: 100 V - 240 V AC, 50 Hz/60 Hz/Output: 16 V DC, 4.06 A AC code is for 100 V only
Battery Pack			Li-ion 7.2 V, 6.8 Ah (typ.), 6.4 Ah (min.)
Operating Time* ²²			<ul style="list-style-type: none">• The lightweight battery pack (included): Approx. 8 hours (Economy Mode (ECO) - Disable)• The battery pack (option): Approx. 16.5 hours (Economy Mode (ECO) - Disable)
Charging Time* ²³			Approx. 4 hours (Power off)/Approx. 5 hours (Power on)
Power Consumption			Approx. 65 W Max.* ²⁴
Physical Dimensions (W × D × H* ²⁵)			282.8 mm × 209.6 mm × 23.4 mm (at the front)/38.7 mm (at the rear) (excluding protrusion)
Weight* ²⁶	Computer		Approx. 1.18 kg (included the lightweight battery pack (Approx. 0.255 kg))
	AC adaptor		Approx. 0.2 kg (excluded AC cord {Approx. 0.06 kg})
Environment	Operation	Temperature	5 °C to 35 °C
		Humidity	30 % to 80 % RH (No condensation)
OS* ²⁷	Base OS		Genuine Windows® 7 Ultimate 32-bit Service Pack 1/Genuine Windows® 7 Ultimate 64-bit Service Pack 1 (with Windows XP mode)
	Installed OS		Genuine Windows® 7 Ultimate 64-bit Service Pack 1 (with Windows XP mode)

○ : You do not need to install before use.

■ : Must be installed before use.

● Pre-installed Software*²⁷

Situation		Application to use	The factory default settings
Internet/Network	To view a website	Microsoft® Internet Explorer 9.0	○
	To search the Internet	goo stick* ²⁸	○
	To switch the network easily	NetSelector2	○
	To switch the wireless power/IEEE802.11a settings	Wireless Switch Utility	○

Specifications

Situation		Application to use	The factory default settings
Security	To set the security	Security Settings Utility	○
	To protect against viruses	McAfee trial version	■ *29
	To block access to harmful websites	i-Filter 6.0	■ *29
	To encrypt using the internal security chip (TPM)	Infineon TPM Professional Package V3.7	■ *29
PDF File	To view a PDF file	Adobe Reader	○
File Operation	To compress or decompress files	WinZip 14.5 Japanese version	■ *29
Battery	To correct the battery display	Battery Recalibration	○
Touch Pad	To make the touch pad easier to use	Touch Pad Utility	○
Keyboard/ Character Input	To give notification of the numeric keypad mode	Numlock Notification	○
	To make the Fn keys easier to use	Hotkey Settings	○
		Fn Ctrl Replace Utility	■ *29
	To use convenient conversion functions and text correction functions when entering Japanese text	ATOK for Windows free trial version	■ *29
	To display the meaning of specified text	Kingsoft	■ *29
Power Plan/ Power-saving	To switch the power plan and set power saving	Power Plan Extension Utility	○
	To use power efficiently	Peak Shift Control Utility	○
Writing to CD/ DVD	To write to CD/DVD To create DVD video	Roxio Creator LJB (including MyDVD)*30	○
Sound/Movie	To play music and video	Microsoft® Windows® Media Player 12	○
	To view DVD video/To play video	CyberLink PowerDVD 10*31	○
Peripherals	To make the external display easier to use	Projector Helper	○
	To switch to numeric keypad mode when a USB keyboard is connected	USB Keyboard Helper	■ *29
	To make the extended desktop mode easier to use when an external display is connected	Display Helper	■ *29
	To project the screen onto a projector	Wireless Manager mobile edition 5.5	■ *32
	To display the screen on an external display using Intel® WiDi	Intel® WiDi Software	○
Screen	To expand a part of the screen like a magnifying glass	Loupe Utility	○
	To expand the entire screen	Optimized View	■ *29
Windows XP Mode	To run the Windows XP environment on the Windows 7 desktop	Windows XP Mode	■ *33

Situation		Application to use	The factory default settings
Settings of the computer's operating environment	To shorten the time until Windows starts up	Quick Boot Manager	○
	To change the CD/DVD drive character	Optical Disc Drive Letter-Setting Utility	○
	To display website update information or information related to the battery and hard disk/To assist the HDMI connection	PC Information Popup	○
	To check the computer's usage state	PC Information Viewer	○
	To configure the various computer settings	Aptio Setup Utility	○
	To perform diagnosis for the hardware	PC-Diagnostic Utility ^{*34}	○
Recovery Disc Creation	To create a Recovery Disc in case reinstallation cannot be performed from the HDD recovery partition	Recovery Disc Creation Utility	○
When Disposing of This Computer	To erase the hard disk data	Hard Disk Data Erase Utility ^{*35}	○
Others	DirectX 11 ^{*36}		○
	Microsoft® .NET Framework 3.5.1		○
	Intel® PROSet/Wireless Software (Software to expand the certification method of the wireless LAN)		○
	Intel® My WiFi Technology		○
	Intel® Identity Protection Technology (Intel® IPT)		○
	VIP Access for Desktop (Software for Intel® IPT)		○

*1 1 MB = 1,048,576 bytes / 1 GB = 1,073,741,824 bytes

*2 For 32-bit OS, the usable memory available will be less depending on the specifications (3.4 GB ~ 3.5 GB).

*3 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 the Video memory is allotted depending on the operating system. (<32-bit> 1557 MB Max.)

*4 1 MB = 1,000,000 bytes / 1 GB = 1,000,000,000 bytes. Your operating system or some software application will report as fewer GB.

*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 CD-R, CD-RW, DVD-RAM, DVD-R, DVD-R DL, DVD-RW, +R, +R DL, and +RW cannot be guaranteed depending on writing status and recording format. Also, some data cannot be played back depending on the disc, settings, and environment being used. Does not support writing to DVD-R DL/+R DL (dual layer discs) and Ultra-Speed CD-RW. Does not support 2.6 GB DVD-RAM.

*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 Depending on the disc, the writing speed may become slower.

*9 Only non-cartridge type or removable cartridge type can be used.

*10 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.

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

- *12 The external display connector is for connecting an external display for a computer. Some external displays may not display correctly. When using your household television as the external display, check the supported resolutions in the instruction manual supplied with the television.
When a HDMI-supporting display is connected, the display specifications, such as the maximum output resolution, differ depending on the specifications of the connected device. For details, check the specifications of the connected device.
- *13 To communicate with the computer using IEEE802.11a, use a wireless LAN access point that supports W52, W53 or W56. To communicate using a mode based on IEEE802.11n, a wireless LAN access point that supports this mode is required. Also, the encryption settings for the computer and the wireless LAN access point must be set in AES. For details, contact the manufacturer of your wireless LAN access point.
- *14 Some devices cannot be used depending on the port type.
- *15 Must be installed Infineon TPM Professional Package before use. For information on TPM, click  (Start) and input "c:\util\drivers\tpm\README.pdf" in [Search programs and files] and press , and refer to the *Installation Manual of "Trusted Platform Module (TPM)"*.
- *16 Operation has been tested and confirmed using Panasonic SD Memory Card with a capacity of up to 2 GB, Panasonic SDHC Memory Card with a capacity of up to 32 GB, and Panasonic SDXC Memory Card with a capacity of up to 64 GB. Operation on other SD equipment is not guaranteed.
- *17 USB 1.1/2.0 compatible. Does not guarantee operation of all USB-compatible peripherals.
- *18 USB 1.1/2.0/3.0 compatible. Does not guarantee operation of all USB-compatible peripherals.
- *19 Does not guarantee operation of all HDMI-compatible peripherals.
- *20 Use a condenser-stereo microphone.
- *21 Because this computer uses a power cord compatible with 100 V AC, connect it to a 100 V AC power outlet. (➔ page 9) 20-J-1
- *22 Operating time according to the "JEITA Battery Run Time Measurement Method (Ver. 1.0)."
Varies depending on the usage conditions, or when an optional device is attached.
When Economy Mode (ECO) is enabled, the operating time becomes approximately 20 % shorter than when it is disabled.
- *23 When Economy Mode (ECO) is enabled, the charging time becomes approx. 5.5 hours (Power on/off).
Varies depending on the usage conditions, CPU speed, etc.
It may take a long time to charge a fully discharged battery.
- *24 Approx. 0.7 W when the battery pack is fully charged (or not being charged) and the computer is off.
(However, note it is approx. 1 W during peak shift control.)
For the battery charge retention times in sleep/hibernation, refer to "Starting Up/Shutting Down" (➔ page 27).
Even if the AC adaptor is not connected to the computer, when it is connected to a power outlet, the AC adaptor itself consumes power up to 0.3 W.
- *25 41.4 mm at thickest point (excluding protrusions).
- *26 Average value. May differ depending on models.
- *27 When reinstalling Windows using the data of the recovery area on the hard disk, you can select the OS to be installed (either Windows 7 (32-bit) or Windows 7 (64-bit)). An OS that has been installed at the time of purchase or an OS that has been installed using the hard disk recovery function or the recovery disc can be supported.
- *28 The goo stick is not displayed on Windows 7 (64-bit).
- *29 Must be installed before use.
- *30 Some functions are not available.
- *31 CPRM is rights management technology which is used when digital broadcasts with recording restrictions are recorded to DVD-RAM, DVD-R or DVD-RW with a DVD recorder.
To play back such content, your operating environment must be connected to the Internet.
Once connected to the Internet, the content is recognized automatically and is available for playback.
From the next time, it can be played back without connecting to the Internet.
DVD-Audio playback is not supported. Some functions are not available.
- *32 A software application for wireless projection. Used when connecting by wireless LAN or wired LAN to a Panasonic projector (TH-LB20NT/TH-LB30NT/TH-LB50NT/TH-LB55NT/TH-LB60NT/PT-FW100NT/PT-F100NT/PT-F200NT/PT-F300NT/PT-FW300NT/PT-LB51NT/PT-LB75NT/PT-LB80NT/PT-LB90NT/PT-LW80NT/PT-DZ570/PT-DW530/PT-DX500/PT-F300/PT-FW300/PT-FW430/PT-FX400). For PT-DZ570/PT-DW530/PT-DX500/PT-FW430/PT-FX400, a separate wireless module (sold separately) is required. Must be installed before use.
- *33 For details on the operating environment of a software application and its compatibility with Windows 7, contact the manufacturer of the software application.
In Windows XP Mode, it is not guaranteed that all Windows XP functions will work or an equivalent performance will be achieved. Must be installed before use.

*34 Refer to “Hardware Diagnostics”.

*35 Perform on the HDD recovery partition. (If this software can not be performed on the HDD recovery partition, perform from the recovery disc)

*36 The graphics accelerator of this computer supports up to DirectX 10.1.

To use Intel® Anti-Theft Technology and Intel® Identity Protection Technology (Intel® IPT), a dedicated solution provided by a service provider is required.

● Wireless LAN

Data Transfer Rates*37		IEEE802.11a :	54/48/36/24/18/12/9/6 Mbps
		IEEE802.11b :	11/5.5/2/1 Mbps
		IEEE802.11g :	54/48/36/24/18/12/9/6 Mbps
		IEEE802.11n	
		20MHz:	6/13/19/26/39/52/58/65/78/104/117/130 Mbps
		20MHz, Short GI:	7/14/21/28/43/57/65/72/86/115/130/150 Mbps
		40MHz:	13/27/40/54/81/108/121/135/162/216/243/270 Mbps
		40MHz, Short GI:	15/30/45/60/90/120/135/150/180/240/270/300 Mbps
Standard Supported		ARIB STD-T66/ARIB STD-T71 IEEE802.11a (W52/W53/W56), IEEE802.11b, IEEE802.11g, IEEE802.11n*38	
Transmission Method		OFDM system, DS SS system	
Effective Range*39		IEEE802.11a:	Approx. 30 m unobstructed
		IEEE802.11b/g/n:	Approx. 50 m unobstructed (when communicating with an access point)
Wireless Channels Used	Infrastructure mode	IEEE802.11a/n:	36/40/44/48 Channels (W52) 52/56/60/64 Channels (W53) 100/104/108/112/116/120/124/128/132/136/140 Channels (W56)
		IEEE802.11b/g/n:	1 - 13 Channels
		IEEE802.11b/g:	1 - 11 Channels
	Ad hoc mode	IEEE802.11b/g:	1 - 11 Channels
RF Frequency Band		2.4 GHz (2.4 GHz - 2.4835 GHz) 5 GHz (5.15 GHz - 5.35 GHz, 5.47 GHz - 5.725 GHz)*40	

*37 These are speeds specified in IEEE802.11a+b+g+n standards.

Actual speeds may differ.

*38 The description concerning support for IEEE802.11n is not a guarantee of connecting with other products that support IEEE802.11n.

*39 The effective range differs depending on surrounding conditions such as the radio wave environment, obstructions and the setup environment, and on usage conditions such as the software applications and OS.

*40 Using the 5.2 GHz/5.3 GHz band (W52/W53) for communication outdoors is prohibited by the Radio Act. Before taking this computer outdoors when using W52/W53 and with the wireless LAN power turned on, set IEEE802.11a to be disabled. Using the 5.47 GHz to 5.725 GHz frequency band (W56) outdoors is not prohibited by the Radio Act.


IEEE802.11b/g			
IEEE802.11a			
<input checked="" type="checkbox"/> W52	<input checked="" type="checkbox"/> W53	<input checked="" type="checkbox"/> W56	

● WiMAX

Data Transfer Rates*41		Maximum for receiving	28 Mbps (best effort system)
		Maximum for transmission	6 Mbps (best effort system)
Standard Supported		IEEE802.16e-2005	
Transmission Method		OFDMA system	
Effective Transmission Range*42		1 km - 3 km	
RF Frequency Band		2.5 GHz (2595 MHz - 2625 MHz)	

*41 The values displayed as the maximum communication speed for receiving and transmitting are not the actual communication speeds (specification values for the mounted module).

*42 The effective range differs depending on surrounding conditions such as the radio wave environment, obstructions and the setup environment, and on usage conditions such as the software applications and OS.

- Microsoft®, Windows® and the Windows logo are registered trademarks of Microsoft Corporation of the United States and/or other countries.
- Intel and Intel Core are either registered trademarks or trademarks of Intel Corporation.
- SDXC Logo is a trademark of SD-3C, LLC. 
- Adobe, the Adobe logo and Adobe Reader are either registered trademarks or trademarks of Adobe Systems Incorporated in the United States and/or other countries.
- McAfee and VirusScan are registered trademarks of McAfee, Inc. of the United States and/or other countries.
- Bluetooth™ is a trademark owned by Bluetooth SIG, Inc., U.S.A. and licensed to Panasonic Corporation.
- Roxio Creator is trademarks or registered trademarks of Rovi Corporation.
- i-Filter is a registered trademark of DigitalArts Corporation.
- WiMAX is a registered trademark of WiMAX Forum.
- HDMI, the HDMI Logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.
- Names of products, brands, etc., appearing in this manual are trademarks or registered trademarks of their respective own companies.