



Panasonic[®]

Reference Manual

Personal Computer

Model No. **CF-29 Series**



XP

We recommend that this Reference Manual be printed.

- Some of the illustrations in this manual may differ slightly in shape from the actual items in order to make the explanation easier to understand.
- If the user has logged on without the administrator authority, some functions may not be executable, and some screens may be not displayed as shown in this manual. If this happens, log on with the administrator authority to enable these functions.
- This manual covers two types of models, as distinguished by the type of LCD screen models with touchscreen and models without touchscreen.
- Confirm the latest information on optional products in catalogs, etc.
- The following drives may be described as "CD/DVD drive".
CD-ROM drive, DVD-ROM drive, CD-R/RW drive, DVD-ROM & CD-R/RW drive, DVD MULTI drive

Illustrations and Terminology in this Reference Manual

NOTE	NOTE provides a useful fact or helpful information.
CAUTION	CAUTION indicates a condition that may result in minor or moderate injury.
<u>Enter</u>	This illustration means to press the [Enter] key.
<u>Fn+F5</u>	This illustration means to press and hold the [Fn] key, then press the [F5] key.
[start] - [Run]	This illustration means to click [start], then to click [Run]. For some applications, you may need to double-click.
→ or ⇒	These symbols indicated related pages. → : Refer to the page in this Reference Manual ⇒ : Refer to the Operating Instructions
OOOO* ¹	If * ¹ is selected, it will jump to a related explanatory note.

About Display Mode

Internal LCD (Notebook)	This computer's display
External Display (Monitor)	External display connected to this computer
Simultaneous display (Intel(R) Dual Display Clone)	To display the same screen on both the LCD and external display
Extended Desktop	To use both the internal LCD and the external display as an extended display domain. You can drag a window from the internal LCD to the external display.

The terminology in () is the one used in [Intel(R) 82852/82855 GM/GME Graphics Controller properties].

To display [Intel(R) 82852/82855 GM/GME Graphics Controller properties]:

Select [start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics 2 M].


Key Combinations

CAUTION




- Do not press the following key combinations repeatedly in (quick) succession. Also, do not press different key combinations quickly one after another.
- Do not press the following key combinations while using the touch pad (external mouse), touchscreen (only for models with touchscreen) or other keys.




NOTE

- Do not press the following key combinations until you log on to Windows and the hard disk drive indicator turns off. Note, however, that the key combinations **Fn+F1**, **Fn+F2** and **Fn+F3** are operable in the Setup Utility.
- The key combinations below may not work while some applications are running. The popup window may not be displayed depending on the state of the application you are using (e.g., when [Command Prompt] is set to "Full Screen").

Key	Functions	Popup Window (Displayed after logging on to Windows)
Fn+F1 Fn+F2	LCD brightness control (down) LCD brightness control (up) Pressing this key combination adjusts the brightness of LCD. The brightness setting is stored in memory separately under the condition the AC adaptor is connected and under the condition the AC adaptor is not connected.	

Key	Functions	Popup Window (Displayed after logging on to Windows)
<u>Fn+F3</u>	<p>Display change (When the external display is connected) By pressing this key combination, you can select either an external display, internal LCD or simultaneous. (→ page 65) This key combination does not work when [Command Prompt] is set to "Full Screen".</p> <p>CAUTION</p> <hr/> <ul style="list-style-type: none">● Do not press another key until the display destination has been completely switched.● Do not press this key combination in the following conditions.<ul style="list-style-type: none">• When the external display is not connected.• While MPEG files are playing.• When the Extended Desktop is being utilized.• When a game such as pinball is displayed. <hr/> <p>NOTE</p> <hr/> <ul style="list-style-type: none">● When switching to a different user with the Fast User Switching function, this key operation may not work. In this case, log off all users and restart the computer. <hr/>	—

Key	Functions	Popup Window (Displayed after logging on to Windows)
<u>Fn+F4</u>	<p>Speaker on/off switch Pressing this key combination turns on/off audio from the internal speaker and headphone jack.</p> <p>NOTE</p> <ul style="list-style-type: none"> Disabling the speakers will also disable the warning beep. Speakers connected to the USB port cannot be muted. 	 OFF (MUTE)  ON
<u>Fn+F5</u> <u>Fn+F6</u>	<p>Volume control (down) Volume control (up) Pressing this key combination adjusts the volume of the internal speaker and headphone jack.</p> <p>NOTE</p> <ul style="list-style-type: none"> This key combination cannot be used to adjust the volume of the warning beep or speakers connected to the USB port. 	
<u>Fn+F7</u>	<p>Power off using the standby function Pressing this key combination causes the current status of the computer to be saved to the memory, and powers off the computer. (→ page 27)</p>	—

Key	Functions	Popup Window (Displayed after logging on to Windows)
<u>Fn+F9</u>	<p>Remaining capacity of the battery pack Pressing this key combination displays the remaining battery capacity on the screen.</p>	<p>When the battery pack is inserted in the computer (example)</p> <ul style="list-style-type: none"> ● In normal temperature mode (→ page 44)  <ul style="list-style-type: none"> ● In high temperature mode (→ page 44)  <p>When the battery pack is not inserted in the computer</p> 
<u>Fn+F10</u>	<p>Power off using the hibernation function Pressing this key combination causes the current status of the computer to be saved to the hard disk, and powers off the computer. (→ page 27)</p>	<p>—</p>

Hotkey Settings

There are two Fn key functions as follows:

- Fn key lock function
After **Fn** is pressed once, it stays in the "pressed" position until another key is pressed. This is convenient when it is difficult to press two buttons simultaneously.
- Popup windows display ON/OFF

1 Run the Hotkey Settings.

Select [start] - [All Programs] - [Panasonic] - [Hotkey Settings].

2 Set the parameters.

A. Use Fn key lock

Add the check mark if you want to enable the Fn key lock function. The following Fn key lock function will then be enabled.

- To use **Fn** only once:

- ① Press **Fn** once. (Locked)
- ② Press another key for combination. (Lock released)

- To use **Fn** successively:

- ① Press **Fn** twice. (Locked)
- ② Press another key for combination.

Fn key remains locked until **Fn** is pressed once more.

B. Notification


This setting is only available when [Use Fn key lock] is checked.


[Make sounds when Fn key is pressed]^{*1}

Notifies the user with a sound when **Fn** is locked or released.

[Show status on screen]:

Displays the Fn key status on the taskbar.

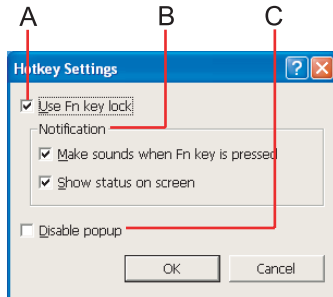
: **Fn** is locked

: **Fn** is not locked

C. Disable popup

Add the check mark if you want to turn the popup window display function OFF.

The full-screen display of [Command Prompt] screen or MPEG files may change to a window display if **Fn+Fx**^{*2} keys are pressed. To prevent this, turn the popup window display function OFF.



3 Select [OK].








NOTE



- The Fn key lock function also works with **Fn** and other keys (e.g. **→**, **←**) aside from **Fx**^{*2}.
 - Each user can select separate settings for whether or not to use the Hotkey settings.
-

*1 If MUTE is set, you will not hear a beep.

*2 "**Fx**" indicates any function key from **F1** to **F10**.

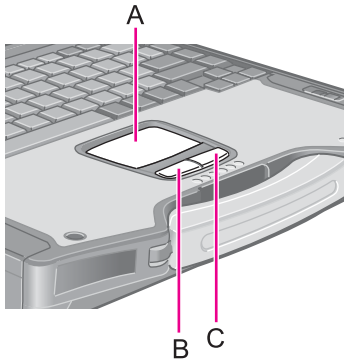
LED Indicators

	Power status	<ul style="list-style-type: none">● Not lit Power off / Hibernation mode● Green Power on● Blinking green Standby mode
	Battery pack status	→ page 42
	Caps Lock	This indicator lights green when CapsLock is pressed. Subsequent non-shifted input is capitalized.
	NumLk (Numeric key)	This indicator lights green when NumLk is pressed. This causes a portion of the keyboard to function as a numeric keypad. The [Enter] key functions differently depending on the application. (If an external keyboard or ten-keyboard is connected to the external keyboard/mouse port, the numeric keypad of the internal keyboard will not operate.)
	ScrLk (Scroll lock)	This indicator lights green when ScrLk is pressed. Scroll lock functions differently depending on the application.
 ^{*1}	Multimedia pocket device status	<ul style="list-style-type: none">● This indicator lights when the multimedia pocket device (→ page 51) is accessed. (When using the floppy disk drive as an external floppy disk drive, only the access lamp on the side of the floppy disk drive is lit.)● This indicator shows the status of a second battery pack when a second battery pack is installed in the multimedia pocket. The details of the status display are the same as for the main battery pack status (→ page 42).
	Hard disk drive status	This indicator lights when the hard disk drive is accessed.

 ^{*1}	Power status of the multimedia pocket	<ul style="list-style-type: none">● This indicator lights when power is supplied to a device in the multimedia pocket.● It is not lit when a second battery pack is installed in the multimedia pocket. <p>You can confirm the status of the second battery pack with  (multimedia pocket device status).</p>
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^{*1} MP is the abbreviation for Multimedia Pocket.

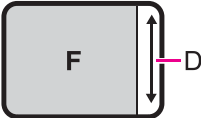
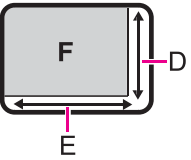
Touch Pad



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

- A. Work Surface (Touch Pad)
- B. Left Button
- C. Right Button

The touch pad has the following two modes of operation.



Microsoft® IntelliMouse™ Wheel Mode (Setting at the time of purchase)	Original Mode
<p>Wheel mode operations (almost identical to the case of using the Microsoft® IntelliMouse™ for scroll, zoom, etc., operations) are possible for Microsoft® wheel function-compatible applications.</p> <p>Microsoft® IntelliMouse™ is a mouse-type device that, in addition to the two conventional buttons, incorporates a wheel able to rotate forwards/backwards.</p>	<p>Only scroll operation is possible for applications not compatible with the Microsoft® wheel function. Even for applications compatible with the Microsoft® wheel function, there are cases where only vertical scrolling or only horizontal scrolling is possible in this mode.</p>
<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Scrolling Area D. Scrolling up/down For the Pan and Auto Scroll functions, the entire work surface of the touch pad can be used for scrolling.</p> </div> </div>	<div style="display: flex; align-items: center;">  <div style="margin-left: 10px;"> <p>Scrolling Area D. Scrolling up/down Possible when a check mark is added for [Vertical]. E. Scrolling side-to-side Possible when a check mark is added for [Horizontal].</p> </div> </div>

Typical mouse operations use the area (F): When no check mark is added for [IntelliMouse Wheel mode], [Horizontal] and [Vertical] of [Scroll Configuration], the entire surface can be used for typical mouse operations. (→ [page 13](#))


NOTE

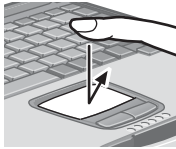
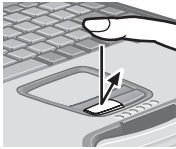

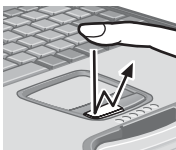




- When you are not sure whether an application is compatible with the Microsoft® wheel function or not, try using both modes. Depending on the application, there are cases where scrolling may not be possible with either mode.



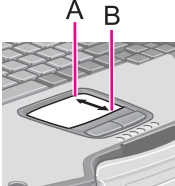

Changing the Mode of the Touch Pad

- ① Display the setting menu.
Select  (models with touchscreen) or  (models without touchscreen) on the taskbar or select [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse], and then select [TouchPad].
- ② Change the settings.
 - **To set the Microsoft® IntelliMouse™ Wheel mode**
Add the check mark for [IntelliMouse Wheel mode] of [Scroll Configuration].
 - **To set the original mode**
Remove the check mark for [IntelliMouse Wheel mode] of [Scroll Configuration] and then add the check mark for [Vertical] and/or [Horizontal].
- ③ Select [OK].

Operating the Touch Pad

Function	Operation
Moving the Cursor	 <p>Move the tip of your finger lightly over the work surface.</p>

Function	Operation	
Tapping/Clicking		 tapping or clicking ● To right-click: click with the right button
Double-Tapping/Double-Clicking		 double-tapping or double-clicking
Dragging		 Two quick taps, but on the second tap leaving your finger down (applying pressure) and moving it on the work surface. or While holding down the button, moving your finger on the work surface.
Scroll ^{*1} Scroll a document. (rotate the wheel) ^{*2}	 	Microsoft® IntelliMouse™ Wheel Mode Original Mode

Function	Operation
<p>Auto Scroll^{*1*3}</p> <p>Automatically scroll a document. (move the mouse after clicking the wheel)^{*2}</p>	 <p>Operate after pressing the two buttons simultaneously.</p> <ul style="list-style-type: none"> ● When releasing the auto scroll function: One tap on the work surface.
<p>Pan^{*1*3}</p> <p>Scroll in various directions of a document. (move the mouse slightly while holding down the wheel)^{*2}</p>	 <p>Operate while holding down the two buttons.</p>
<p>Zoom^{*1*3}</p> <p>Magnify/reduce the display of a document. (rotate the wheel while holding down Ctrl)^{*2}</p>	<p>Ctrl+</p>  <p>A. Magnify B. Reduce</p>
<p>Data Zoom^{*1*3}</p> <p>Display or hide a document, or perform operations to return to or proceed with Internet Explorer. (rotate the wheel while holding down Shift)^{*2}</p>	<p>Shift+</p> 

- *1 The movements will differ depending on the application.
- *2 Operations to follow when using an external Microsoft® IntelliMouse™.
- *3 Operation applicable to the Microsoft® IntelliMouse™ Wheel mode.

CAUTION

<Models with touchscreen>

- Do not remove [touchpad/touchscreen] in the following menu.
[start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices]

<Models without touchscreen>

- Do not remove [touchpad] in the following menu.
[start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices]
-

NOTE

- The double-tapping speed of the touch pad can be changed using the following menu.
[start] - [Control Panel] - [Printers and Other Hardware] - [Mouse] - [Tap and Buttons] - [Double-click Speed]
 - The touch pad cannot be used in the Setup Utility.
-

When you want to use an external mouse through the external keyboard/mouse port of the port replicator (optional)

When an external mouse or trackball with additional functions (e.g., wheel function) is connected, a part or all of the additional functions may fail to operate. To use these additional functions, perform the operation below.

If you are using a USB mouse, the following operation is unnecessary.

- 1** Power off your computer (⇒ *Operating Instructions* "Starting Up/ Shutting Down") and connect the computer to the port replicator (⇒ *Operating Instructions* of the Port Replicator).
- 2** Connect the external mouse or trackball to the port replicator.

- 3 Turn the computer on and run the Setup Utility (→ [page 87](#)).
- 4 In [Main] menu, set [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Disable].
- 5 Close the Setup Utility by pressing **F10**. At the confirmation message, select [Yes].
- 6 Log on to Windows with the administrator authority.
- 7 When the message [Completing the Found New Hardware Wizard] is displayed, select [Finish].
It may take a few minutes to complete this operation.
- 8 If the display asks you to restart Windows, select [Yes].
The computer will restart.
- 9 Following the operating instructions of the connected external mouse or trackball, install the necessary driver.

NOTE

- When you want to use the PS/2 compatible mouse:
 - ① Select [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Mice and other pointing devices].
 - ② Select [touchpad/touchscreen] (models with touchscreen) or [touchpad] (models without touchscreen), then select [Update Driver] at [Driver].
 - ③ Select [No, not this time], then select [Next].
 - ④ Select [Install from a list or specific location] and select [Next].
 - ⑤ Select [Don't search. I will choose driver to install.], then select [Next].
 - ⑥ Select [PS/2 Compatible Mouse], then select [Next].
 - ⑦ At the confirmation message, select [Yes].
 - ⑧ Select [Finish], then select [Close].
 - ⑨ The display will ask you to restart Windows, select [Yes].
The computer will restart.
-

When you want to re-enable the Touch Pad and touchscreen (only for models with touchscreen)

- 1** Uninstall the driver or application software of an external mouse or trackball. (Refer to the operating instructions of the external device on how to uninstall the driver.)
If the explanation of uninstalling the driver or application software can not be found in the operating instructions for the external device, execute the following steps.
 - ① In [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager], when an external mouse or trackball device is displayed in [Mice and other pointing devices], press **Del** to delete it.
 - ② If the confirmation message is displayed, select [OK].
- 2** If the display asks you to restart Windows, select [No].
- 3** Power off your computer (⇒ *Operating Instructions* "Starting Up/ Shutting Down") and remove the external mouse or trackball.
- 4** Turn the power on and run the Setup Utility (→ [page 87](#)).
- 5** In [Main] menu, set [Touch Pad] and [Touchscreen] (only for models with touchscreen) to [Enable].
- 6** Close the Setup Utility by pressing **F10**. At the confirmation message, select [Yes].
- 7** Log on to Windows with the administrator authority.
- 8** Select [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse] - [Hardware].
- 9** Confirm that [touchpad/touchscreen](models with touchscreen) or [touchpad](models without touchscreen) is displayed at [Devices].
<When [touchpad/touchscreen](models with touchscreen) or [touchpad](models without touchscreen) is not displayed>
 - ① Select the external mouse or trackball and then select [Properties].

- ② Select [Driver] and then select [Update Driver].
 - ③ At [Welcome to the Hardware Update Wizard], select [No, not this time], and then select [Next].
 - ④ Select [Install from a list or specific location] and then select [Next].
 - ⑤ Select [Don't search. I will choose the driver to install.] and then select [Next].
 - ⑥ Select [Have Disk], input [c:\util\drivers\mouse] at [Copy manufacturer's files from], then select [OK].
 - ⑦ Select [touchpad/touchscreen] (models with touchscreen) or [touchpad] (models without touchscreen) and then select [Next].
If the some item names are displayed, select one.
If [xx has not passed Windows Logo testing....] is displayed, select [Continue Anyway].
 - ⑧ Select [Finish] and then select [Close].
 - ⑨ The display will ask you to restart Windows. Select [Yes].
The computer will restart.
<When [touchpad/touchscreen](models with touchscreen) or [touchpad](models without touchscreen) is displayed>
 - ① Select [OK].
- <Only for models with touchscreen>

10 Perform the touchscreen calibration.(→ [page 22](#))

Handling the Touch Pad

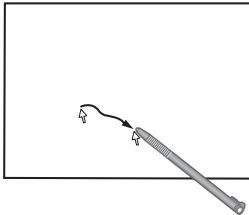
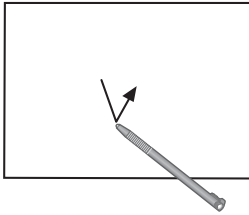
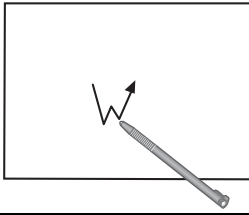
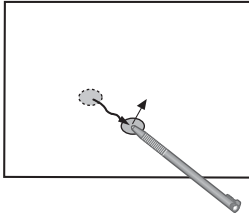
- By design the touch pad is to be used with a finger tip only. Do not place any object on the work surface or press down forcefully with sharp-pointed objects (e.g., nails) or hard objects that can leave marks (e.g., pencils and ball point pens).
- Try to avoid having any harmful substances such as 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.

Only for models with touchscreen

Your computer is equipped with a touchscreen function allowing you to perform the same operations as the touch pad or mouse by touching the surface of the display with the stylus (included). If the cursor cannot be pointed correctly with the stylus, perform [Calibration]. ([→ page 22](#))









The following explanation gives one example (for the default settings).

The operation settings can be changed. ([→ page 22](#))

Functions	Operation
Moving the cursor	 <p>The cursor is moved to the location pointed by the stylus.</p>
Clicking (Tapping)	 <p>One tap</p>
Double-clicking (Double-tapping)	 <p>Two quick taps</p>
Dragging	 <p>Touch and hold the object (i.e. file or icon), move the stylus on the surface (dragging the object to the desired location), then release the stylus.</p>

NOTE


- **To right-click:**

- ① Select  on the taskbar.
 changes to .
 - ② Select the object you want to right-click.
 changes to .
- If you make a mistake and select , select  to return to .
-

CAUTION

- When the internal LCD is used alone or with an external display simultaneously, the touchscreen function will not work properly when the area of either display is set larger than default setting of the display resolution.
 - If a change is made to the display resolution, or the cursor can not be pointed correctly with the stylus, be sure to perform [Calibration]. (→ [page 22](#))
 - When mouse drivers are installed (e.g., Intellimouse), the touchscreen function may not be used.
 - When you want to uninstall or reinstall the touchscreen (touch pad) driver, refer to the "Touch Pad (Advanced)". (→ [page 16](#))
 - Even when only an external display is in use, the cursor will move on the external display if the surface of the internal LCD is touched when the touchscreen driver is active. Therefore, do not touch the internal LCD when only an external display is in use.
 - The touchscreen function can not be used when using the full screen in [Command Prompt].
-


NOTE

- Select  on the desktop to view [Important Tips] for using the touchscreen. You can also view [Important Tips] using the following procedures. Select [Important Tips] in [start] - [All Programs] - [Panasonic] - [On-Line Manuals].
-

Configuring the Touchscreen

When needed, the touchscreen can be configured using the following steps.

1 Display [Mouse Properties] screen.

Select  on the taskbar and then select [TouchScreen] or select [TouchScreen] in [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse].

- A. Double click settings
Set the width and height of the double click.
- B. Advanced configuration
Set the advanced settings.
- C. Test
Test for the "Double click settings".
- D. Calibration & Test


Define the calibration setup. Use this procedure when the cursor, the stylus (included) touches do not appear to agree. (Necessary for changes in the alignment of the touchscreen with visual images or an adjustment of the display resolution.)

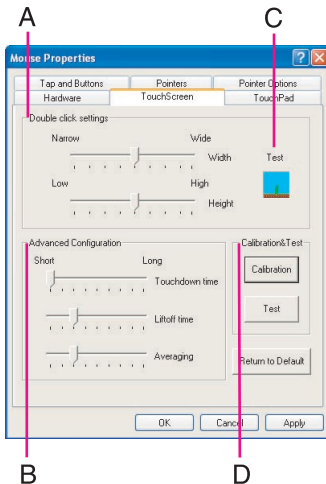
Touch the "+" mark on the calibration screen for about one second.

After the calibration procedure is executed (e.g., after the nine "+" marks are touched), the procedure ends when **Enter** is pressed.

2 Make necessary changes and select [OK].

NOTE

- The double-click speed of the touchscreen can be changed in [Tap and Buttons].
- For more information, click  at the upper right corner.




Handling the Touchscreen

- Use the stylus included with the computer. Do not use pencils, implements with sharp tips or hard objects for screen operations.
- Do not place any object on the 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).
- Do not operate the computer when such things as dust are on the screen. Do not allow contact with substances that could dirty the touchscreen, such as oil.
- **When the touchscreen becomes dirty:**
 - Wipe to remove dirt by using a dry soft cloth included with the computer.
 - Do not use benzene or thinner, or rubbing alcohol.
 - For more information, refer to "Suggestions About Cleaning the LCD Surface" that comes with the soft cloth.

Handling the Stylus

- Clean the stylus tip and screen prior to operation. Foreign particles can scratch the screen and impede the operation of the stylus.
- Use the stylus only for the computer screen. Using it for any other purpose may damage the stylus and scratch the screen.

Simple characters and figures like signatures and arrows can be made by using the work surface of the touch pad or the touchscreen (only for models with touchscreen), and can be saved to a file as a bitmap (.bmp) format.

- Any change to the size of an image must be made before beginning to draw. If the image size is changed after the drawing is completed, the image (quality) will not be sharp.
- Data can be copied to the clipboard with [Edit] - [Copy]. Copied data can be added to other applications that support the bitmap format by using the paste function.
- The file size of a bitmap image to be saved or pasted to another application can be changed with [Option] - [Window size].
- Changing the number of colors of the display may affect the Panasonic Hand Writing screen. If the screen is affected, click  on the taskbar with the right mouse button, close the application by selecting [Exit Panasonic Hand Writing], and then run Panasonic Hand Writing again.
- Drawing accuracy may be degraded if another application, such as disk accessing, is being executed simultaneously. Begin drawing only after other applications have been closed.


NOTE

- If a commercially-available pointing device (e.g., mouse) driver is installed and overwrites the driver of the touch pad, Panasonic Hand Writing will no longer work.


Drawing Characters or Figures

CAUTION

- Do not use the Fast User Switching function while Panasonic Hand Writing is in use.

- 1** Select  on the taskbar or run Panasonic Hand Writing as the following procedure.
Select [Panasonic Hand Writing] from [start] - [All Programs] - [Panasonic].
- 2** Draw a character or figure.
 - When using the Touch Pad mode
Positions on the work surface of the touch pad have corresponding positions in the Panasonic Hand Writing window. For example, a character or figure made in the

top-left part of the work surface of the touch pad will be displayed in the top-left part of the Panasonic Hand Writing window.

- ① Select  or select [Touch Pad mode] in [Option].
- ② Draw a character or figure using the touch pad.
Determine the position to begin drawing while pressing down on the right button of the touch pad. After determining this position, release your finger from the button and draw. (Drawing is not possible while the right button of the touch pad is being pressed.)
- ③ Press the left button of the touch pad to end the Touch Pad mode.
 - When not using the Touch Pad mode
- ④ Drag^{*1} across the Panasonic Hand Writing window to draw a character or figure.

*1 Touch pad: → [page 12](#)

Touchscreen (only for models with touchscreen): → [page 20](#)

NOTE

- Do not operate any of the followings when using the Panasonic Hand Writing in the Touch Pad mode. The Touch Pad mode will be cancelled.
 - Switch to another application.
 - Resume operation from the standby or hibernation mode.
 - Display the settings screen for [Panasonic Hand Writing].
 - Select a menu after pressing **Alt**.
 - Touch the touchscreen (only for models with touchscreen).
 - In the following cases, the Touch Pad mode does not work properly.
 - When the computer is in the Extended Desktop.
 - When a screen saver has been set, it may start up during input in the Touch Pad mode.
-

- 3 Select [Save As] or [Save] from [File].

CAUTION

- In the Touch Pad mode, an external mouse or trackball connected to the external keyboard/mouse port will not operate.

<Only for models with touchscreen>

- When using the touchscreen, use the stylus included with the computer. Do not use any of the following objects, as they may damage the work surface.
 - Objects with an extremely sharp tip, like screwdrivers and nails.
 - Objects that leave marks, like ball-point pens.
 - When using the touchscreen, do not perform a drag operation by the touch pad or the external mouse as the movement will be input on the display.
-

Starting Up Your Computer Quickly

If you use the standby or hibernation function, you can shut down the computer without closing programs and documents. Upon restarting your computer from either the standby or hibernation mode, you can immediately continue working in all programs, or documents that were open at the time the computer was placed into standby or hibernation mode.

Differences between the Standby and Hibernation Functions

Function	Where data is saved to	Time until recovery	Requires power supply
Standby function	Memory	Short	Yes (if power is cut, all data is lost)
Hibernation function	Hard disk	Rather long	Power is not required to maintain data

NOTE

- We recommend plugging in the AC adaptor if the standby function is to be used for a long period of time. If the AC adaptor cannot be connected, we recommend that hibernation mode be used instead of the standby mode.
- If the standby or hibernation function is used repeatedly, the computer may not work properly. To stabilize computer operations, shut down Windows on a regular basis (about once a week) without using the standby or hibernation function.

Entering the Standby or Hibernation Mode

Use any of the following methods to enter the standby or hibernation mode. To use the hibernation mode, set [Power Options] in advance (→ [page 28](#)). (Enabled in factory preset.)

- Using Fn key combinations (→ [page 6](#))
- Using the power switch (→ [page 30](#))
- Using the display (→ [page 32](#))

- From the shutdown screen
 - Standby
In [start] - [Turn Off Computer], select [Stand By].
 - Hibernation
In [start] - [Turn Off Computer], press and hold **Shift**, then select [Hibernate].

Setting for Using the Hibernation Mode

At the time of purchase, the computer is set so that hibernation mode can be used.

- 1** Select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options].
- 2** In [Hibernate], add the check mark for [Enable hibernation] and select [OK].

Precautions

■ Before entering the standby or hibernation mode

- Be sure to save all data.
- When a file in an external device such as a CD/DVD drive, external hard disk, or ATA card is opened, close the file.
- Even when a password has been set in the Setup Utility, [Enter Password] does not appear when the computer resumes from the standby or hibernation mode. If you want to use the security function when using the standby or hibernation mode, use the Windows password as follows:
 - ① Select the account to change in [start] - [Control Panel] - [User Accounts].
 - ② Set the password.
 - ③ Add the check mark for [Prompt for password when computer resumes from standby] in [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].
- Do not enter either the standby or hibernation mode under the following conditions. You may corrupt your data or file, the standby or hibernation function may not work, or the computer (or peripherals) may fail to work properly.

- When the Multimedia pocket device indicator (MP) ^{*1} or hard disk drive indicator (HDD) is on.
- When playing/recording audio files and displaying images (such as MPEG files).
- When playing a DVD-Video.
- When writing to a CD-R/RW disc.
- When using communications software or the network function.
- When using PC Cards.
(If these cards fail to work properly, restart the computer.)
- When an external mouse is connected to the serial port.

*1 Except when using a second battery pack

■ When entering the standby or hibernation mode

Standby mode: until the power indicator blinks green

Hibernation mode: until the power indicator goes off

- Avoid the following:
 - Using the keyboard, touch pad, touchscreen (only for models with touchscreen.), or power switch.
 - Using external mouse or other peripheral devices.
 - Connecting or disconnecting the AC adaptor.
 - Closing or opening the display.

■ In standby or hibernation mode

- Do not insert or remove peripherals; abnormal operation may result.
- Do not insert or remove the Multimedia pocket device. (Except when using a second battery pack)
- In standby mode, power is consumed. If PC Cards are inserted, more of that power is consumed. When all power has been consumed, all data saved at standby is lost since it is retained in memory. We therefore recommend plugging in the AC adaptor when using the standby function.

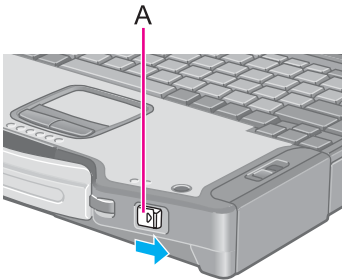
Using the Power Switch

■ Setting

- 1 Select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].
- 2 Select [Stand by] or [Hibernate] for [When I press the power button on my computer], and then select [OK].

■ Entering the standby or hibernation mode

- 1 Slide the power switch (A); at the beep^{*2} sound, release your finger. The computer will enter either the standby or hibernation mode, depending on the setting.



CAUTION

- After releasing your finger from the power switch, do not touch the power switch until the power indicator goes off or blinks.
- At the beep^{*2} sound, release your finger from the power switch. If you continue to slide the power switch and hold it for more than four seconds, the computer will emit a second beep^{*2} then power off. Data not previously saved will be lost. Even when [When I press the power button on my computer] is set to [Shut down] with [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced], if you slide the power switch for more than four seconds and do not release it, a second beep^{*2} will sound and the power will be turned off forcibly. Data not previously saved will be lost.

^{*2} When the speaker function is disabled, e.g., by the key combination **Fn+F4**, there will be no beep sound.

Using the Display

CAUTION

- Do not perform the following settings when the multimedia pocket device needs to be installed or removed.

■ Setting

- 1 Select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].
- 2 Select [Stand by] or [Hibernate] for [When I close the lid of my portable computer], and then select [OK].

■ Entering the standby or hibernation mode

- 1 Close the display.
The computer will enter either the standby or hibernation mode, depending on the setting.
 - When entering the standby or hibernation mode, close the display correctly. If you do not do so, (for example, if you open the display soon after you close it) the computer may not enter standby or hibernation mode.

Resuming Operation

CAUTION

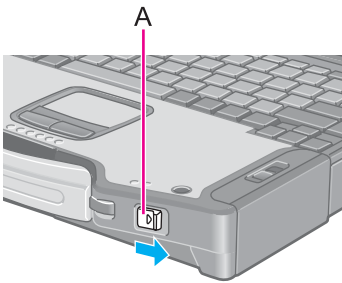
- Until resuming is complete (requires about 15 seconds, or 60 seconds if connected to a network, after the display returns), avoid the following:
 - Touching the keyboard (except for password input), touch pad, touchscreen (only for models with touchscreen, or power switch).
 - Using external mouse or other peripheral devices.
 - Connecting or disconnecting the AC adaptor.

- Closing or opening the display.
 - Shutting down or restarting Windows.
 - Entering either the standby or hibernation mode again.
-

Using the Power Switch

When having entered the standby or hibernation mode using Fn key combinations or the power switch, resume operation using the following procedure.

- 1 Slide the power switch (A).



Using the Display

When [Stand by] or [Hibernate] is selected as the setting for [When I close the lid of my portable computer] (→ [page 31](#)), you can resume operation using the following procedure.

- 1 Open the display.
Even if the display is closed after the computer has entered either the standby or hibernation mode, operation will resume when the display is opened. If the computer does not resume when the display is opened, press the power switch.

To prevent unauthorized access of your computer, the various security measures are provided below.





Situation	Function to use
You do not want the settings in the Setup Utility to be changed	<ul style="list-style-type: none">● Supervisor Password (→ page 33)● User Password (→ page 35)
You do not want your computer to be used without permission	<ul style="list-style-type: none">● Password on boot (→ page 36)^{*1}
You do not want the data on the hard disk to be read, or data to be written to the hard disk, in cases including theft	<ul style="list-style-type: none">● Hard Disk Lock (→ page 37)^{*1}
You want to prevent theft or damage to data by using a disk.	Prevent operation by using a disk (→ page 38)
You want to prevent theft of your computer	Security lock (⇒ <i>Operating Instructions</i> "Names and Functions of Parts")

^{*1} You need to set the Supervisor Password beforehand.

NOTE

- Windows has a security function that differs from the above security measures. For detailed information, refer to the Windows help.
- <Only for models with wireless LAN>
For security functions for the wireless LAN: → page 81

Setting the Supervisor Password (enabling, changing, disabling)

- 1 Run the Setup Utility. (→ page 87)
- 2 Using either  or , select [Security].
- 3 Using either  or , select [Set Supervisor Password] and press **Enter**.

- 4 Only when the Supervisor Password has been set:
Enter your password at [Enter Current Password] and press **Enter**.
- 5 Enter your password at [Enter New Password] and press **Enter**.
 - To disable the Supervisor Password
Press only **Enter**.
- 6 Re-enter your password at [Confirm New Password] and press **Enter**.
 - To disable the Supervisor Password
Press only **Enter**.
- 7 At [Setup Notice], press **Enter**.
- 8 Press **F10** and select [Yes], then press **Enter**.

CAUTION

- Do not forget your password. If your Supervisor Password is forgotten, you will be unable to use your computer. Contact Panasonic Technical Support.
 - When running the Setup Utility, do not leave your computer even for a short time, as the possibility exists for the password to be set/changed by another person.
-

NOTE

- Your password will not be displayed on the screen.
 - Only up to seven alphanumeric characters can be used.
 - There is no distinction between upper and lower case letters.
 - Use only the upper horizontal row of numeric keys to input your password.
 - Do not input your password while holding down on **Shift** or **Ctrl**.
 - Disabling the Supervisor Password also disables the User Password.
-

Setting the User Password (enabling, changing, disabling)

NOTE

- When the Supervisor Password has not been set, the User Password can not be set. Set the Supervisor Password if you have not done so. (→ page 33)
- To disable the User Password, start up the Setup Utility with the Supervisor Password.

- 1 Run the Setup Utility. (→ page 87)
- 2 Using either $\overrightarrow{\hspace{1em}}$ or $\overleftarrow{\hspace{1em}}$, select [Security].
- 3 Using either \overuparrow or \overdownarrow , select [Set User Password] and press **Enter**.
- 4 Only when the User Password has been set:
Enter your password at [Enter Current Password] and press **Enter**.
- 5 Enter your password at [Enter New Password] and press **Enter**.
 - To disable the User Password
Press only **Enter**.
- 6 Re-enter your password at [Confirm New Password] and press **Enter**.
 - To disable the User Password
Press only **Enter**.
- 7 At [Setup Notice], press **Enter**.
- 8 Press **F10** and select [Yes], then press **Enter**.

CAUTION

- Do not forget your password. If a password is forgotten, you will be unable to use your computer. If this happens, ask a person who knows the Supervisor Password.
- When running the Setup Utility, do not leave your computer even for a short time, as the possibility exists for the password to be set/changed by another person.

NOTE

- Your password will not be displayed on the screen.
- Only up to seven alphanumeric characters can be used.
 - There is no distinction between upper and lower case letters.
 - Use only the upper horizontal row of numeric keys to input your password.
 - Do not input your password while holding down on **Shift** or **Ctrl**.
- When you do not want the User Password enabled or changed without permission:
 - ① Run the Setup Utility and enter the Supervisor Password.
 - ② Go to [Security] menu. Using **↑** and **↓**, select [User Password Protection] and press **Enter**.
 - ③ Using either **↑** or **↓**, select [Protected] and press **Enter**.

When you do not want your computer to be used without permission

When [Password on boot] is set to [Enable], it is impossible to start the computer without the password.

NOTE

- You cannot set [Password on boot] without setting the Supervisor Password. Set the Supervisor Password if you have not done so. (→ [page 33](#))

Setting the Password on boot (enabling, disabling)

- 1 Run the Setup Utility. (→ [page 87](#))
- 2 Using either **→** or **←**, select [Security].
- 3 Using either **↑** or **↓**, select [Password on boot] and press **Enter**.
- 4 Select [Enable] or [Disable].

- To enable the Password on boot
Select [Enable] and press **Enter**.
- To disable the Password on boot
Select [Disable] and press **Enter**.

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

Starting Up When the Password on boot is Set

Enter Password []

Enter your password^{*1} and press **Enter**. (→ [page 87](#))

- When the correct password is inputted, the computer will start.
- When three incorrect password attempts or nothing is input for one minute, the computer will power off.

^{*1} Supervisor Password or User Password set in the Setup Utility (not the Windows password).

When you do not want the data on the hard disk to be read/written

When the Hard Disk Lock is set to [Enable], it is impossible to read/write data from/to the hard disk when the hard disk is inserted in a different computer. When the hard disk is returned to the original computer, you can read and write data as before. In this case, however, make the settings in the Setup Utility exactly the same as they were before the hard disk was removed.

It is possible to set the Hard Disk Lock even if [Password on boot] is set to [Disable], but we recommend that [Password on boot] be set to [Enable] for security reasons. (Note that this Hard Disk Lock does not guarantee complete protection of data.)

NOTE

- In the default setting, [Hard Disk Lock] is set to [Disable].
- You cannot set [Hard Disk Lock] without setting the Supervisor Password. Set the Supervisor Password if you have not done so. (→ [page 33](#))
- The hard disk lock function only works with the internal hard disk. This function does not work with the second hard disk or the external hard disk.

Setting the Hard Disk Lock (enabling, disabling)

- 1 Run the Setup Utility. (→ [page 87](#))
- 2 Using either **→** or **←**, select [Security].
- 3 Using either **↑** or **↓**, select [Hard Disk Lock] and press **Enter**.
- 4 Select [Enable] or [Disable].
 - To enable the Hard Disk Lock
Select [Enable] and press **Enter**. At [Caution], press **Enter**.
 - To disable the Hard Disk Lock
Select [Disable] and press **Enter**.
- 5 Press **F10** and select [Yes], then press **Enter**.

CAUTION

- To change your hard disk drive
 - Contact Panasonic Technical Support.
 - Before changing the hard disk, be sure to set the [Hard Disk Lock] to [Disable].

Preventing theft or damage to data using a disk

Disabling the floppy disk operation makes it impossible to read and write a floppy disk and to start the computer from a floppy disk. This can prevent data from being accessed illegally or overwritten accidentally using a floppy disk.

NOTE

- It is not possible to disable a USB floppy disk drive.

Procedure

- 1 Run the Setup Utility. (→ [page 87](#))
- 2 Using either → or ←, select [Security].
- 3 Using either ↑ or ↓, select [Floppy Operation] and press **Enter**.
- 4 Select [Enable] or [Disable].
 - To enable the floppy operation
Select [Enable] and press **Enter**.
 - To disable the floppy operation
Select [Disable] and press **Enter**.
- 5 Press **F10** and select [Yes], then press **Enter**.

Saving Power

One of the main features of notebook-type computers is that you have the power of computing away from your home or office. In the following, information is provided on how to maximize use of the battery pack which is necessary for such computing.

- **Four Important Points**

- **POINT 1**

Be sure to charge your battery before and after use.

- **POINT 2**

To get the maximum use of your battery, set the power management mode.

- **POINT 3**

Check to see that you have your AC adaptor with you before leaving your home or office.

Purchasing a spare battery (CF-VZSU29) is highly recommended.

- **POINT 4**

Always watch your battery level!

Power Saving Methods

- **Change [Power Schemes]**

Select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options], and then set [Power schemes] to [Max Battery].

Power consumption can also be minimized with detailed settings; for example, by reducing the time setting for [Turn off monitor].

- **Adjust the brightness (darker) with Fn+F1 (→ page 4)**

- **Leave your computer off when it is not in use**

(⇒ *Operating Instructions* "Starting Up/Shutting Down")

- **Remove peripheral devices (USB devices, PC Cards, external mouse, etc.) when not in use**


- **Before stepping away from your computer, press Fn+F7 to put your computer in the standby mode (→ page 6), or Fn+F10 to put your computer in the hibernation mode (→ page 7)**

If you plan to leave the computer for a long period of time, we recommend using the standby mode or hibernation mode as often as possible to minimize power consumption. Before entering the standby or hibernation mode, refer to "Precautions". (→ page 28)

CAUTION

- When installed in a network environment (except when the Wake Up from LAN function is in use).
Do not use the standby or hibernation mode.
After resuming operation from the standby or hibernation mode, the network connection may be severed or the computer will not work properly.
-

NOTE

- Select  on the taskbar to view [Important Tips] for using the battery pack. You can also view [Important Tips] using the following procedures.
Select [Important Tips] in [start] - [All Programs] - [Panasonic] - [On-Line Manuals].
-

Use the Battery Indicator to Check the Battery Status

□: Status of main battery pack

▣: Status of second battery pack

Battery Indicator	Battery Status
Not lit	Battery pack is not connected or charging not being performed.
Orange ^{*1}	Charging in progress.
Green ^{*1}	Fully-charged.
Blinking green	<p>In high temperature mode, the battery is discharging to the level that corresponds to an 80%^{*2} charge for normal temperature mode. (→ page 44) Do not remove the battery pack while the battery indicator is blinking green.</p> <p>CAUTION</p> <hr/> <ul style="list-style-type: none">Do not remove the battery pack while the battery indicator is blinking green or the power will be turned off forcibly. <hr/>
Red	<p>The battery level 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.</p>
Blinking red ^{*1}	<p>Battery pack or charging may not be working properly. Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact Panasonic Technical Support. Possible failure in the battery pack or charging circuit.</p>

Battery Indicator	Battery Status
Blinking orange ^{*1}	Battery cannot be recharged temporarily because the internal temperature of the battery pack is outside of the acceptable temperature range for recharging. Once the allowable range requirement is satisfied, charging begins automatically. Your computer can be used normally in this state.
Blinking green and orange alternately	Warming up the system to prevent hard disk drive malfunctions at low temperature. Leave your computer as is. Once the allowable range requirement is satisfied, your computer will start automatically.

^{*1} When the AC adaptor is connected.

^{*2} In high temperature mode, the level that corresponds to an 80% charge for normal temperature mode is displayed as [100%].

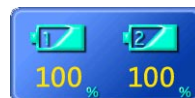
NOTE

- This computer prevents overcharging of the battery by recharging only when the remaining power is less than approx. 95% of capacity after the battery is fully charged.

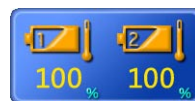
Check the Remaining Battery Power

1 Press **Fn+F9** to check the remaining battery power on the screen (after logging on to Windows)

- When the battery pack is inserted in the computer (example)



:normal temperature mode (→ page 44)



:high temperature mode (→ page 44)

- When the battery pack is not inserted in the computer



Left: The remaining power of the main battery.

Right: The remaining power of the second battery (optional).

NOTE

- In the following cases, there may be a difference between the remaining battery capacity displayed on the indicator and the actual remaining battery capacity. To correct this, perform the "Battery Recalibration." (→ [page 47](#))
 - The battery indicator light remains red.
 - The battery remaining displays 99% and the indicator light is orange for a long period of time.
 - Low battery warning appears after a short period of time.
This may be caused by the use of standby mode for long periods of time. The battery is discharging while the computer is in standby mode when the AC adaptor is not connected.
- There may be a discrepancy between the % value that is displayed on the taskbar icon, and [Power Meter] in [Power Options Properties]. This is not a malfunction.

About High Temperature Mode

This computer has a high temperature mode function that prevents the deterioration of the battery in high-temperature environments or when using the fully charged battery pack for a long period of time.

To use the high temperature mode function, set [Environment] in the [Main] menu of the Setup Utility to [Auto]^{*1} or [High Temperature]. In [Auto] mode, high temperature mode or normal temperature mode is selected automatically depending on the battery status (the internal temperature of the battery pack, etc.) or usage condition (when the AC adaptor has been connected for a long period of time).

Note that a level corresponding to a 100% charge for high temperature mode is approximately equivalent to an 80% charge level for normal temperature mode.

^{*1} The default mode.

NOTE

- After switching from [Normal Temperature] to [High Temperature] or vice versa, the remaining battery capacity will not be displayed properly until the battery pack is completely discharged or fully charged.
 - In the [Auto] mode:
Once the computer has automatically switched from [Normal Temperature] to [High Temperature], the computer will not switch back to [Normal Temperature] until the battery has been recharged from 0% to 100% about five times. This is to prevent the deterioration of the battery.
-

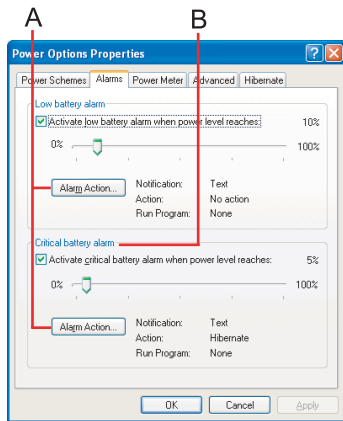
When the Remaining Battery Charge Becomes Low

The following is factory default setting.

When remaining battery capacity falls to 10% [Low battery alarm]	When remaining battery capacity falls to 5% [Critical battery alarm]
<ul style="list-style-type: none"> ● Displays a message indicating the low battery level. <p style="text-align: center;">↓</p>	<ul style="list-style-type: none"> ● Displays a message indicating the low battery level and the computer will enter hibernation mode. <p style="text-align: center;">↓</p>
<p style="text-align: center;">Charge your battery.</p>	<p style="text-align: center;">Connect the AC adaptor or replace the battery pack before starting up the computer next time.</p>
<ul style="list-style-type: none"> ● Connect the AC adaptor immediately. If you do not have the AC adaptor with you, exit any programs currently running, then exit Windows, and confirm that the power indicator is off. ● If you have a fully charged spare battery, turn off the computer, replace the battery, and turn the computer on again. Do not replace the battery pack while the computer is in standby mode. 	<ul style="list-style-type: none"> ● Connect the AC adaptor, then charge the battery. ● If you have a fully charged spare battery, turn off the computer, replace the battery pack, and turn the computer on again. After the computer enter hibernation mode when the battery runs down, if computer operations are resumed without charging the battery, Windows may not start up properly, and in some cases the alarm function may not operate properly from that point on.
<p>Do not replace the battery pack while the computer is in standby mode.</p>	

Above settings can be changed.

- ① Display [Alarms] screen.
Select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Alarms].



② Set alarm operations and remaining battery level for operating alarm functions. When disabling the speaker by pressing **Fn+F4**, the sound alarm is also disabled.

- When making a setting for [When the alarm goes off, the computer will] in [Alarms] - [Alarm Action]:
Add a check mark for [Force stand by or shutdown even if a program stops responding.].
- Set the value for [Critical battery alarm] to 5% or more.
This is necessary for the standby or hibernation function to be completed (assuring data is saved) when the battery level is low.

Accurately Displaying Battery Capacity (Battery Recalibration)

The battery pack has a function for measuring, storing and learning about battery capacity. Using the "Battery Recalibration" function to accurately display remaining battery capacity requires that the battery pack be fully charged (charged to 100%), then fully discharged. This procedure should be performed once after you purchase the computer. As you use the battery pack over a long period of time, the remaining capacity display may become inaccurate due to aging of the battery pack and other factors. The following procedure should be performed again.

NOTE

- Perform the following procedure in a temperature range of 10°C to 30°C {50°F to 86°F}.
- The "Battery Recalibration" function takes time to execute because of the large battery capacity; this is not a malfunction.
 - Time taken to obtain a full charge: Approx. 4 hours [max.] (main battery + second battery: Approx. 7 hours [max.]
 - Time taken for a complete discharge: Approx. 5 hours (main battery + second battery: Approx. 7.5 hours)
- If the computer is turned off while performing the "Battery Recalibration" (electrical power outage, accidental removal of the AC adaptor or battery pack, etc.), the "Battery Recalibration" will not be performed properly.

- 1 Connect the AC adaptor.
- 2 Close all applications.
- 3 Perform "Battery Recalibration".
 - ① Select [start] - [All Programs] - [Panasonic] - [Battery Recalibration].
 - ② At the confirmation message, select [Start].
 - Performing "Battery Recalibration" at frequent intervals degrades the battery. A message urging caution will appear when "Battery Recalibration" is to be performed again in less than a month or so since it was last performed. In a case like this, do not perform "Battery Recalibration."
 - ③ The display will ask you to shut down Windows. Select [Yes].

The "Battery Recalibration" will begin.

After the battery pack is fully charged, discharging begins. When the discharging is completed, the power automatically goes off.

When "Battery Recalibration" is completed, charging begins.

NOTE

- "Battery Recalibration" can also be performed by following the procedure below.
 - ① Restart the computer.
 - ② Press **F9** while the [Panasonic] boot screen is displayed a few moments after the computer begins the startup procedure.
 - ③ When the remaining battery capacity is displayed, press **Enter**.
 - ④ Follow the on-screen instructions.

Replacing the Battery Pack

The battery pack is a consumable item and therefore will require replacement (CF-VZSU29). If the battery operation time becomes noticeably short, and if performance is not recovered even after executing Battery Recalibration, we recommend that the battery be replaced.

CAUTION

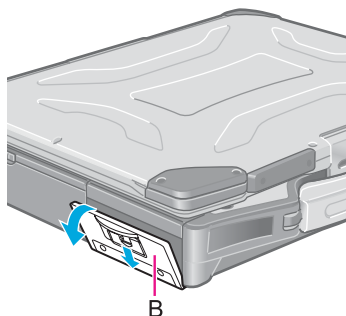
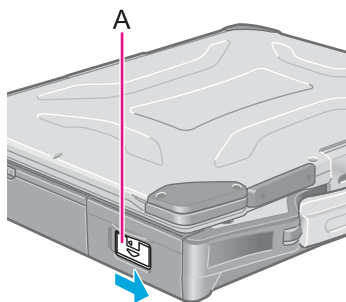
- Do not touch the terminals on the battery pack and the computer. The battery pack may no longer function properly if the contacts are dirty or damaged. Also, the computer may not operate properly.
- The battery pack is not charged when it is first purchased. Be sure to charge it before using it for the first time. When the AC adaptor is connected to the computer, charging begins automatically.
- Use only the specified battery pack (CF-VZSU29) with your computer.
- In the standby mode, do not remove/change the battery pack. Removing the pack in the standby mode will erase your data and may damage the computer.

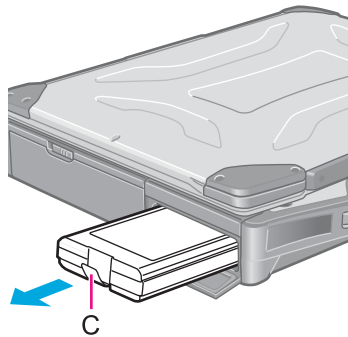
1 Power off your computer.
(⇒ *Operating Instructions* "Starting Up/Shutting Down")
Do not shut down using the standby function.

2 Remove the battery pack.

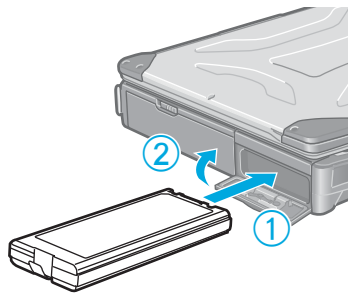
① Unlock the cover by sliding the latch (A) to the right.

② Slide the latch down, and then without releasing it, open the cover (B).





- ③ Pull the tab (C) on the battery pack and remove it from the computer.



- 3** Insert the battery pack.
 - ① Slide the battery pack inward until it is firmly in place.
 - ② Close the cover until it clicks into place.



- ③ Lock the cover by sliding the latch to the left.

CAUTION

- Be sure to insert the battery pack as illustrated.
- Confirm that the latch lock is correctly in place. If you carry your computer without the latch lock in place, the battery pack may fall out.

You may use any of the following devices.

- Floppy disk drive
- CD-ROM drive (Optional)
- DVD-ROM drive (Optional)
- CD-R/RW drive (Optional)
- DVD-ROM & CD-R/RW drive (Optional)
- DVD MULTI drive (Optional)
- Second battery pack (Optional)
- Second hard disk drive (Optional)

NOTE




- Confirm the latest information on optional products in catalogs, etc.
- Be sure to read the operating instructions of the devices.
- Before connecting a peripheral such as a USB device or a PC Card, change the multimedia pocket device in accordance with the media in which the driver of the peripheral exists. If the multimedia pocket device is changed after the installation screen for peripherals is displayed, the multimedia pocket device cannot be recognized even if it is properly installed.

Preparation for Inserting/Removing

Follow the procedure below only in the case of removal (except for the second battery pack).



- When the multimedia pocket device has been removed after the computer is turned off, these steps are not necessary.
- Insertion is carried out with the power on.

1 Disable the multimedia pocket device function.

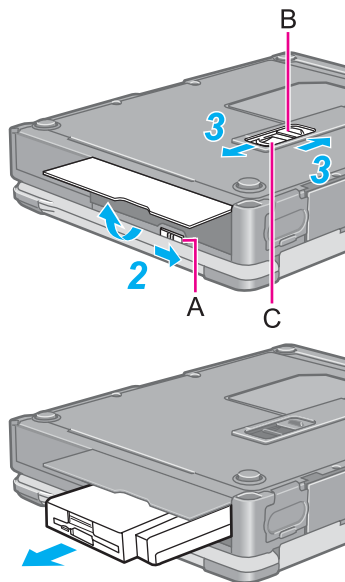
- ① Double-click  on the taskbar.
- ② Select the multimedia pocket device and then select [Stop].
Follow the on-screen instructions.
Confirm that  and  indicators are not lit.

Inserting/Removing

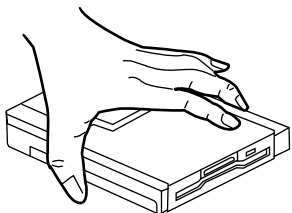
CAUTION

- Do not insert/remove the multimedia pocket device in the standby or hibernation mode, or when  (multimedia pocket device indicator) or  (hard disk drive indicator) is on.
- Do not select [Standby] or [Hibernate] as the setting for [When I close the lid of my portable computer] in the following menu.
[start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].

Removing the Device



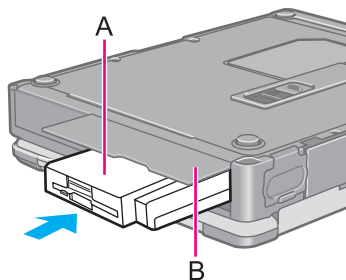
- 1 Turn your computer over.
- 2 Open the cover by sliding the latch (A).
- 3 Slide the cover (B), then slide the lever (C).
- 4 Remove the device by holding both sides of the device.



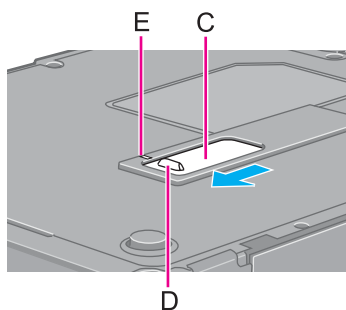
CAUTION

- Handle the device as shown (holding both sides). Otherwise, the device may be damaged. Also, do not apply excessive downward force on the device.

Inserting the Device




- 1** Gently insert the device with the plastic side (A) on top into the multimedia pocket by pushing on both corners until it is firmly in place.
- 2** Close the cover (B) until it clicks into place.

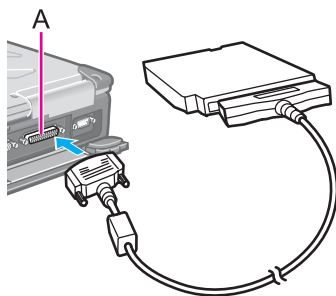


- 3** Close the cover (C) until the ridge (D) matches up with the mark (E).

NOTE


- You can confirm whether the device is properly recognized or not by selecting the icon  on the taskbar or [Information] in the Setup Utility. If the device is not recognized (or if a CD/DVD cannot be read or an FD/HDD/CD-R/CD-RW cannot be read or written to), power off the computer and reinsert the device.
- When the CD/DVD drive is installed:
If the vibration of the CD/DVD drive is excessive, check to see if the disc is inserted correctly, and check that the disc is in good condition. If the disc is good and inserted correctly, set the [CD/DVD Drive Speed] to [Low] in the Setup Utility.

Using the Floppy Disk Drive as an External Drive



You may use the floppy disk drive as an external drive that is connected through the parallel port(A), by using an optional FDD cable (CF-VCF271).

In the Operating Instructions for the FDD cable (CF-VCF271), directions are given to turn the power off before connecting the floppy disk drive by using the cable, but with this computer, the floppy disk drive can be attached or removed while the power is on.

To remove the floppy disk drive while the computer is on, select  on the taskbar before removing the floppy disk drive, select [Standard floppy disk controller], and then select [Stop].

CAUTION

- Do not move the drive while accessing data on the floppy disk.
- Firmly hold both sides of the drive when removing a disk. Excessive force on top should be avoided.

NOTE

- When the computer is on or in the standby or hibernation mode, if the floppy disk drive is accessed after it had earlier been disconnected, there are instances where the contents of the floppy disk set prior to the drive removal are displayed. Do not try to access any of the files. If an attempt is made, an error message may be displayed or a message prompting you to format the disk may appear. (When this message appears, select [Cancel] or [No] to close the display.) The above contents will no longer be displayed when the drive is re-connected or when the computer is restarted.
- When the floppy disk drive is not connected to both the multimedia pocket and parallel port, do not access the floppy disk drive through Explorer, etc.
- The CD/DVD drive cannot be used as an external device.

Information for the CD/DVD Drive

Confirm that [Transfer Mode] is set to [DMA if available] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [IDE ATA/ATAPI controllers] - [Secondary IDE Channel] - [Advanced Settings] - [Device 0]. Perform this setting if it has not yet been made.

Information for the Second Hard Disk Drive

To format the second hard disk, perform the operation below.

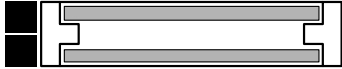
- 1** Turn your computer on.
Be sure to log on with the administrator authority.
- 2** Select [Disk Management] in [start] - [Control Panel] - [Performance and Maintenance] - [Administrative Tools] - [Computer Management] - [Storage].
- 3** When [Welcome to the Initialize and Convert Disk Wizard] is displayed, select [Next].
- 4** At [Select Disks to Initialize], add the check mark for [Disk 1] and select [Next].
- 5** At [Select Disks to Convert], remove the check mark for [Disk 1] and then select [Next].
- 6** Select [Finish].
- 7** Click the right side of [Disk 1] with the right button and select [New Partition].
Follow the on-screen instructions.
- 8** When the operation completes, be sure to select [start] - [Turn off computer] and restart the computer before using the second hard disk.

When changing the partition (after First Time Operation)

CAUTION

- When changing the partition, the contents of a hard disk drive are completely erased.
-

The partition can be changed in [start] - [Control Panel]- [Performance and Maintenance] - [Administrative Tools] - [Computer Management] - [Storage] - [Disk Management].



Your computer has two PC Card slots.

These slots conform to the PC Card Standard; therefore, communications or SCSI devices, etc., may be utilized.

- Type I (3.3 mm) or II (5.0 mm):
Two cards can be used simultaneously.
- Type III (10.5 mm):
One card can be used only in the slot 1.

CAUTION

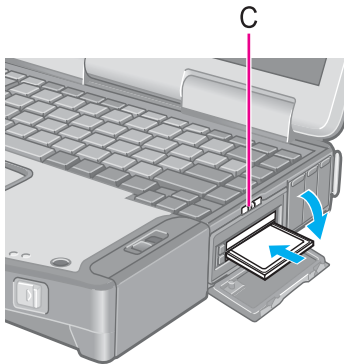
- Check the PC Cards' specifications. Be sure the total operating current does not exceed the specified limit. Damage may result otherwise.
Allowable Current: 3.3 V: 400 mA, 5 V: 400 mA
- There are times when both a Type I card and a Type II card will not work at the same time.
- ZV card, SRAM card, FLASH ROM card (except for an ATA interface) and card requiring 12V are not supported.
- With the repeated insertion/removal of a PC Card, the computer may no longer recognize the PC Card (depending on the type of card). In such cases, restart the computer.
- When inserting one more CardBus type card with one already inserted, after entering either the standby or hibernation mode, the computer may not function properly.
- If the computer freezes after resuming from the standby or hibernation mode, try removing and then reinserting the PC Card. If this does not correct the problem, restart the computer.

NOTE

- Before connecting a PC Card, change the multimedia pocket device in accordance with the media in which the driver of PC Card exists. Once a screen to install a driver is displayed, the multimedia pocket device cannot be recognized even if it is properly installed.

Inserting/Removing the PC Card

Inserting a PC Card



- 1 Open the cover by sliding the latch (C) to the right.
- 2 Simply slide the PC Card right-side-up until it snaps into place. Refer to the operating instructions of each card on how to insert the card.

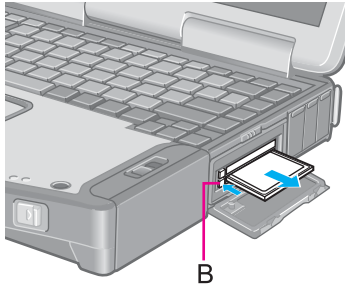
CAUTION


- When using a PC Card to connect a peripheral device (SCSI, IEEE 1394, etc.):
 - ① Connect the peripheral device to the card.
 - ② Turn the device on.
 - ③ Slide the card in until it snaps into place.
- When inserting a card, do not force the card in if difficulty is encountered. Depending on the shape of the card, a segment may remain protruding from the slot after insertion. Do not try to force the card all the way in. You may damage the slot, making it impossible to remove the card.

Removing a PC Card

CAUTION

- Do not remove a PC Card while your computer is in the standby or hibernation mode.
- When two PC Cards are inserted, perform the following procedure (from Step 1 to Step 3 for each of the two cards).
- Note that the operation of removing the PC Card may not be complete, depending on the status of the PC Card or device connected to the PC Card, such as when a SCSI card is used to connect an external hard disk to the computer. In such cases, turn off the power from [start] menu, then remove the card.



- 1** Disable the card function.
 - ① Select  on the taskbar, select the PC Card, then select [Stop].
 - ② Follow the on-screen instructions.
(When the PC Card has been removed after the computer is turned off, this step is not necessary.)
- 2** Press the button (B).
- 3** Slide the PC Card out.

Use a RAM module meeting the RAM module specifications below. If a module is used that does not meet the specifications, there are cases in which data may become unusable or the computer may not operate properly.

- RAM module specifications:
200 pins, SO-DIMM, 2.5 V, DDR SDRAM, PC2700
(For information on the RAM modules that can be used, contact Panasonic Technical Support.)

CAUTION

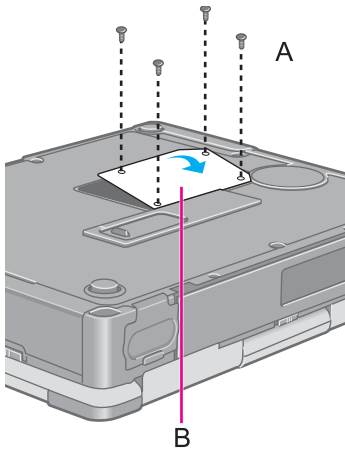
- RAM modules are extremely sensitive to static electricity. There are cases where static electricity generated by the human body has adversely affected such modules. When inserting or removing a RAM module, do not touch the terminals or internal components, insert objects other than the module, or allow foreign particles to enter. Doing so has been known to cause damage, fire or electric shock.
-

Inserting/Removing the RAM Module

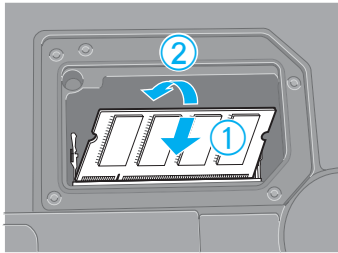
CAUTION

- If the RAM module is difficult to insert or difficult to press down, do not force it. Check once more to ensure that the module is positioned correctly.
-

- 1** Power off your computer.
(⇒ *Operating Instructions* "Starting Up/Shutting Down")
 - Do not use the standby or hibernation function.
- 2** Remove the battery pack. (→ [page 48](#))



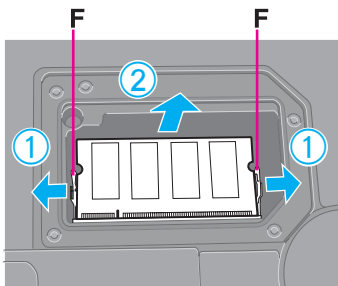
- 3** Turn the computer over and remove the screws (A), then remove the cover (B).



- 4** Insert/Remove RAM module.

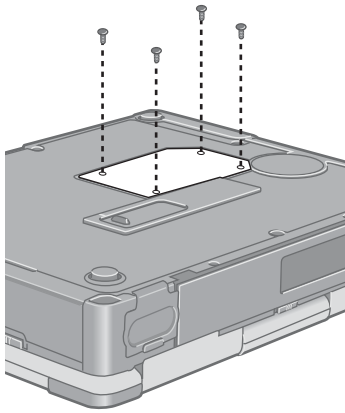
- Inserting the RAM module

- ① Slide in the module at an angle.
- ② Press the module down until the right and left hooks lock into place.



- Removing the RAM module

- ① Gently open the left and right hooks (F).
The RAM module will be raised at an angle.
- ② Gently remove the RAM module from the slot.



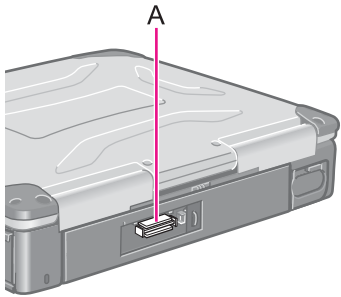
5 Put the cover back in place, then fasten the screws.

6 Insert the battery pack. (→ [page 48](#))

NOTE

-
- If the RAM module is recognized correctly, the total size of the main unit memory and RAM module memory is displayed on the [Information] menu of the Setup Utility (→ [page 89](#)).
- If the RAM module is not recognized, power off the computer and insert it again.
-

Port Replicator



A port replicator is available as an option (CF-VEB272A2W/CF-VEB272AW). This device eliminates the hassles of having you connect/disconnect the various cables when carrying your computer around and allows a variety of peripherals to be connected including a headphone or microphone, etc.

The port replicator connects to the expansion bus connector(A) on the back of your computer.

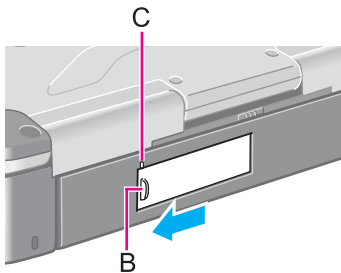
For more detailed information, refer to the Operating Instructions of the port replicator.

CAUTION

- Hot/Warm Docking and Hot/Warm Undocking are not possible with the port replicator.
- When connecting the external display to the display port on the port replicator, the characters on the external display may be blurred if 1280 x 1024 (or a higher resolution) is set. In this case, select a resolution that is lower than 1280 x 1024.
- <For CF-VEB272AW>
When using a USB 2.0 device, connect the device to the USB port of the computer.
- The AC Adaptor (CF-AA1653A) included with the computer cannot be used for the port replicator. Contact Panasonic Technical Support.

NOTE

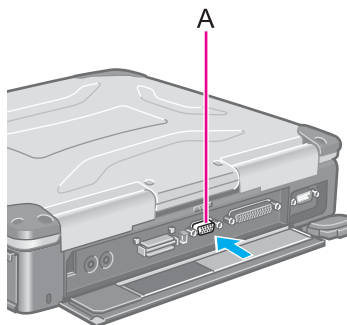
- When the expansion bus connector is not in use, be sure to close the cover until the ridge (B) matches up with the mark (C).



Setting the Port Replicator

The serial port B of the port replicator cannot be used with the default settings. To be able to use the serial port B of the port replicator, be sure to follow the steps below.

- 1 Run the Setup Utility. (→ [page 87](#))
- 2 Select [Advanced] menu and then set [Serial Port B] to [Enable] or [Auto].
- 3 Press **F10**. At the confirmation message, select [Yes] and press **Enter**.
The computer will restart.



- 1** Power off your computer.
(⇒ *Operating Instructions* "Starting Up/Shutting Down")
Do not connect or disconnect devices while the computer is in the standby or hibernation mode.
- 2** Connect the external display.
Connect the external display to the external display port (A) on your computer.
- 3** Turn on the external display, then turn on your computer.
After Windows starts up, the screen is displayed on the display destination set in the following menu.
[start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics 2 M] - [Devices]

It is possible to change the setting to display only on the external display or on both the internal LCD and the external display with **Fn+F3**.
- 4** Set your external display.
Select [start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics 2 M] - [Devices] - [Monitor] and make the settings.

NOTE

- The display destination after resuming from hibernation mode or after restarting may differ from the display destination before entering hibernation mode or before restarting.
When changing the display destination after Windows has started, do not press any keys or slide the power switch until the display destination has changed completely.
- **Fn+F3** does not work when [Command Prompt] screen is set to "Full Screen".
- When the external display is used alone, set the number of colors, resolution, or refresh rate to suit the external display. These settings are separate from when the internal LCD is used alone or with an external display simultaneously.
- When the computer is set to display on both the internal LCD and the external display, DVD-Video, MPEG files and other video files may not be played back smoothly.
- Also, carefully read the operating instructions of the external display.
- When connecting a monitor that does not conform to the Plug & Play standards:
Either select the correct external display driver using in the following menu. Or use the driver disk that was supplied with your monitor.

- [start] - [Control Panel] - [Appearance and Themes] - [Display] - [Settings] - [Advanced] - [Monitor] - [Properties] - [Driver] - [Update Driver]
 - If a picture is not displayed properly, lower the level of [Hardware acceleration] in the following menu.
[start] - [Control Panel] - [Appearance and Themes] - [Display] - [Settings] - [Advanced] - [Troubleshoot]
-

Extended Desktop

With Extended Desktop, you can use both the internal LCD and the external display as an extended display domain. You can also drag a window from the internal LCD to the external display. To use Extended Desktop;

- 1** Display [Intel(R) Extreme Graphics 2 M] screen.
Select [start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics 2 M] - [Devices].
- 2** Select [Extended Desktop], make the settings for [Primary Device] and [Secondary Device].
To make the settings for each display (colors, screen area, etc.), select [Device Settings] and change the settings where necessary, then select [OK].
- 3** Select [OK].
At the confirmation message, select [OK].

NOTE

- There are some applications that cannot be used in the Extended Desktop.
- When the button to maximize a window is pressed, one of the displays will show the maximized display.
- A window that has been maximized cannot be moved to the other display.
- You cannot switch the display destination by pressing **Fn+F3**.
- When the Extended Desktop is being utilized;
 - The pop-up window displayed by **Fn** key combination is shown only on the primary device.

- When changing the primary device ([1]) and secondary device ([2]), be sure to change them in the following menu. If you use other procedures, the window may not be displayed properly.
Select [start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics 2 M] - [Devices] - [Extended Desktop]
- <Only for models with touchscreen>
- The cursor will move on the primary device if the surface of the internal LCD is touched. Set the primary device to the internal LCD when using the touchscreen.
-

Precautions

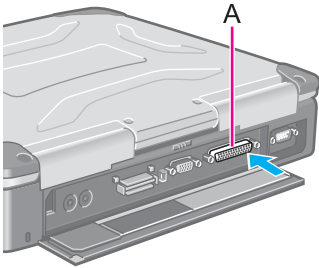
- When the application running is not shown on the display, refer to the following items.
 - Under the condition the application is in the external display, or after the application is closed in the external display, there are cases the application will not be shown in the display when executed the next time if the position of the extended display is changed or the Extended Desktop is closed.

When there is no display after the position of the extended display is changed:
The application running is being displayed at the position of the extended display before the change. Return the position of the extended display to the condition before the change. Move the application to the internal LCD, and then correct the position of the extended display.

When there is no display after the Extended Desktop is disabled:
The application running is being displayed in the external display. Set the Extended Desktop again, move the application from the external display to the internal LCD and then disable the Extended Desktop.
- To prevent images from being burned onto the external display
 - Manually shut off the power to the external display when not in use.

- When the display domain for the Extended Desktop is changed, there are cases the wallpaper and icons become displaced.
 - Wallpaper: Change the setting for the wallpaper.
 - Icons: Run the command to automatically realign the icons. (Auto Arrange)

- When an animated pointer is used for the mouse pointer (e.g., when changing the theme in [Appearance and Themes] of [Control Panel])
 - An error may occur when resuming from the standby or hibernation mode. In such cases, change the mouse pointer to the standard pointer with the following procedure.
 - ① Display [Mouse Properties].
Select [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse].
 - ② Select [Pointers].
 - ③ Select [None] in [Scheme], then select [OK].



A printer can be connect to the parallel port (A) or the USB port (→ [page 70](#)).

NOTE

- Before connecting a printer, change the multimedia pocket device in accordance with the media in which the driver of the printer exists. Once a screen to install a driver is displayed, the multimedia pocket device cannot be recognized even if it is properly installed.
- You may need to install a driver for your printer. Follow the on-screen instructions and refer to the operating instructions of the printer on how to install the driver.
- When you connect a printer to the parallel port, confirm whether or not the setting for the [Parallel Port] in the Setup Utility is optimal.(→ [page 92](#))


- 1** Power off your computer.
(⇒ *Operating Instructions* "Starting Up/Shutting Down")
Do not shut down using the standby or hibernation function.
- 2** Connect the printer to your computer.
- 3** Turn on the printer, then turn on your computer.
- 4** Setting your printer.
Select [Start] - [Printers and Faxes].
Find your printer's icon, double-click on it, then select [Printer] - [Set as Default Printer].
If no icon is available, select [Add a printer] and follow the on-screen instructions.

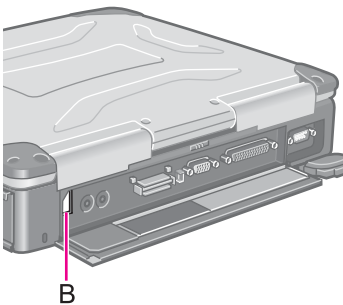
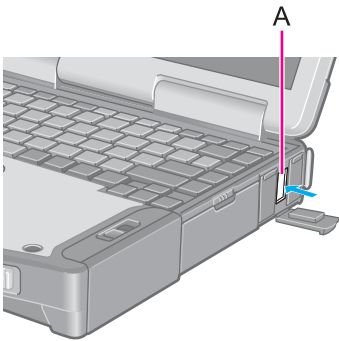
Connecting/Removing USB devices

Connecting USB devices

- 1 Connect the USB device to the USB port (A) or (B) on your computer, referring to the operating instructions of the USB device. Follow the on-screen instructions and refer to the operating instructions for USB devices on how to install the driver.

NOTE



- You may need to install drivers compatible with the operating system you are using for your USB devices.
- USB devices may be connected or removed without turning off the computer's power.
- When a USB device is connected, there are cases the standby or hibernation function will not operate in a normal manner due to the USB device. In addition, a USB device may have to be removed temporarily and the computer restarted in cases where the computer is unable to start up properly.
- Some devices will not operate when connected to a USB HUB; these devices must be connected directly to the USB port on your computer.
- Depending on the USB device connected, the computer may not recognize when the USB device is connected or disconnected, or the device may not operate properly.
 - ① In this case, select [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Select [Universal Serial Bus controllers] - [USB Root Hub].
 - ③ Select [Power Management] and remove the check mark from [Allow the computer to turn off this device to save power].
- When a USB device is removed and then inserted,  may appear in the Device Manager and the device may not be correctly recognized. If this happens, try removing and connect the device once more.
- When USB devices are connected, power consumption increases. Remove USB devices when not in use, especially when operating on battery power.



Removing USB devices

CAUTION

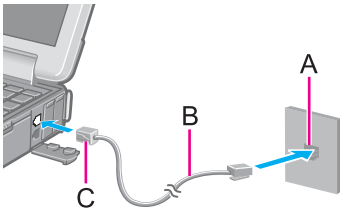
- Do not remove a USB device while your computer is in the standby or hibernation mode.
 - Save important data and close each application.
-

- 1** Disable the device function.
 - ① Select  on the taskbar and select the USB device, then select [Stop].
 - ② Follow the on-screen instructions.
(This step is not necessary when the USB device has been removed after the computer is turned off, if  is not displayed, or if the device disconnected in step ① does not appear in the list.)
- 2** Remove the USB device.

Connecting the Internal Modem with a Telephone Jack

CAUTION

- Do not use the PBX internal phone lines installed in company offices. Doing so may lead to a fire or electric shock.
- It is not possible to connect the modem to any of the following lines.
 - Internal home phones
 - Intercoms
- Be sure to connect the modem telephone cable into the modem port, not into the LAN port.
- The modem may be damaged by sudden high voltage surges, as may occur in the event of a lightning strike. We recommend use of a surge protector.



- 1** Connect the computer and the telephone jack (A) using a modem telephone cable (included)(B).
Open the modem cover, position the cable so that the tab (C) matches the port (☐), and insert the cable until you hear a "click".
- 2** Change the settings as necessary.
 - ① Select [Edit] in [start] - [Control Panel] - [Printers and Other Hardware] - [Phone and Modem Options] - [Dialing Rules], then select the location from which you will be dialing in [Country/region].
 - ② Input the necessary information (items such as the area code, dialing rules, etc.), select [OK], then select [OK].

NOTE

- Do not enter either the standby or hibernation mode during communications.
- To remove the cable, pull out while pressing down on the tab.

Ring Resume Function

With this function, if the telephone that is connected to the modem rings in the standby mode, the power of the computer automatically switches ON.

This function is convenient when using automatic information receiving applications such as a FAX application.

When using this function, it is necessary to run a software application able to maintain the condition to receive telephone calls and to return the computer to the original condition after a call. For further details, refer to the operating instructions provided with software applications.

Enabling the Ring Resume Function

- ① Select [Device Manager] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware], and then select the internal modem from [Modems].
- ② Select [Power Management], add the check mark for [Allow this device to bring the computer out of standby], then select [OK].

CAUTION

- When using this function, it is recommended that the AC adaptor be connected to the computer.
- Concerning the setting for [System standby]^{*1}
 - Roughly consider the communication time and then set [System standby]. There may be cases where the computer enters the standby mode after the time set for [System standby] elapses even during communications, and cuts off the communications.
 - If [Never] is set, the computer will not enter the standby mode during communications, but once the computer resumes, the power of the computer will remain on while the user is absent.
- When the Ring Resume function is being used, some time elapses before a connection is established (equal to the time for the computer to resume). To allow the computer to resume, set the "Call" to a larger value than a typical telephone call. If it is not possible for the sending side to set a long "Call", set the "Number of rings until answer" (with the software application that is able to maintain the condition to receive telephone calls) to a small value.

^{*1} To display the setting for [System standby],
Select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes].

NOTE

- This function does not work when the computer is off or is in hibernation mode.
 - After operations are resumed from standby mode, the screen remains dark. The former screen display will be restored when the keyboard, touch pad, touchscreen digitizer, or tablet button is used.
 - The computer cannot resume if a telephone is connected to the line of a modem (e.g., a PC Card modem) other than the internal modem.
-

When using the computer as a network computer, some additional settings may have to be made depending on the usage conditions. We recommend asking your system administrator or the person in charge of the network.

Connecting LAN

CAUTION

- Do not connect the modem telephone cable into the LAN port.

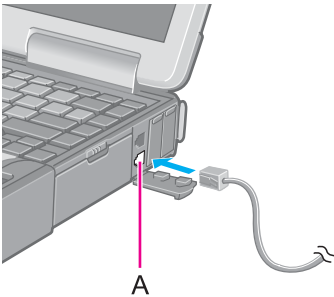
1 Power off your computer.
(⇒ *Operating Instructions* "Starting Up/Shutting Down")
Do not shut down using the standby or hibernation function.

2 Connect the cable.
Connect the LAN port (A) and the network system (server, HUB, etc.) using a LAN cable.

3 Turn on the computer.

CAUTION

- Do not use the standby or hibernation functions during communications (except when the Wake Up from LAN function is in use), as this may cause an error in data transmission or reception. The timeout function may engage even during data transmissions, causing the computer to automatically go into standby or hibernation mode. When not using the Wake up from LAN function, we recommend disabling the timeout function using the following menu.
[start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes]



NOTE

- If you are unable to connect to the network (when the indicator of your HUB unit does not light):
 - ① Display [Device Manager] screen.
Select [Device Manager] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware].
 - ② Select the network adaptor you are using from [Network adapters].
 - ③ Select [Advanced].
 - ④ Confirm the settings of each item.

Wake up from LAN

This is a function of the internal LAN to automatically power the computer on from a network server when the computer is in the standby or hibernation mode. To use this function, it is necessary to have a network environment that accommodates Wake up from LAN.

Enabling the Wake up from LAN Function

- ① Select [Device Manager] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware].
- ② Select the internal network adaptor from [Network adapters].
- ③ Select [Power Management], add the check mark for [Allow the computer to turn off this device to save power] and [Allow this device to bring the computer out of standby], then select [OK].

CAUTION

- Be sure to connect the AC adaptor, and enable the supply of power.

NOTE

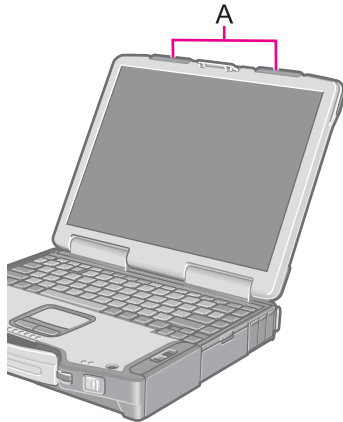
- Even when a password is set in the Setup Utility and [Password on boot] is set to [Enable], it is not necessary to input the password set in the Setup Utility when the computer resumes from standby or hibernation mode.

- The Wake up from LAN function will not operate under the following conditions:
 - When the computer has been shut down.
 - When the power switch is slid over for four seconds or longer to turn off the power (e.g., when the computer hangs).
 - When the AC adaptor and battery pack are removed from the computer or reattached to the computer.
 - After operations are resumed from standby mode, the screen remains dark. The former screen display will be restored when the keyboard, touch pad or touchscreen (only for models with touchscreen) is touched.
 - The Wake up from LAN function will operate regardless of the [Boot up from LAN] setting of the Setup Utility.
 - The computer may start up if accessed by another computer on the network. The following procedure can be used to prevent startup due to unintentional access by a computer.
 - ① Select [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [Network adapters].
 - ② Select the internal network adaptor, and then select [Power Management].
 - ③ Add the check mark for [Allow this device to bring the computer out of standby] and [Only allow management stations to bring the computer out of standby], then select [OK].
-

Only for models with wireless LAN

If you use a wireless LAN, you can use a network without cable connections.

- Wireless LAN communication methods
 - Infrastructure mode
For data transactions between two or more computers with wireless LAN functions, using an access point
 - Ad hoc mode
For direct data transactions between two computers with wireless LAN functions, without using an access point
 - This computer supports three standards: IEEE802.11a (802.11a), IEEE802.11b (802.11b) and IEEE802.11g (802.11g). At the time of purchase, however, 802.11a is disabled: to enable it, install a Wireless LAN Switch.(→ [page 82](#))



CAUTION

- Communication is performed through the wireless LAN antenna (A). Do not block the antenna area with your hand or otherwise interfere with the passage of the radio signals.
- Do not use the Fast User Switching function. The wireless LAN cannot be used.

NOTE

- The communication speeds and distances differ depending on the devices that support the wireless LAN, the installation environment and other ambient conditions.
- One characteristic of radio waves is that their transmission rate tends to drop as the communication distance increases. It is recommended that the devices supporting the wireless LAN be used in close vicinity to each other.
- The rate may drop while a microwave oven is being used.
- When using a wireless LAN in an environment that combines both 802.11g and 802.11b, communication speed when using 802.11g may decrease.

Precautions

- Do not use wireless LAN on airplanes, in hospitals, or in other locations where wireless LAN signals may affect the operation of devices in the vicinity.
 - Abide by instructions regarding use in airplanes and hospitals.
 - If you intend to use the computer in the environments described above, turn off the wireless LAN. (→ [page 79](#))
- To prevent theft of data or unauthorized access to the hard disk via a wireless LAN.
 - When using the wireless LAN function, there is a danger that data may be stolen from the hard disk, or that shared files may be accessed. If you plan to use wireless LAN functions, we recommend that you do so only after making the appropriate security settings, such as for encryption.





Turning On/Off for the Wireless LAN Function

Turn on/off the wireless LAN function power using Intel® PROSet/Wireless Software.

NOTE

- Before using a wireless LAN, turn the wireless LAN on (at the time of purchase, the wireless LAN is set to [Wireless Off]).

1 Display [Intel PROSet/Wireless] screen.

Double-click  /  /  (when the wireless LAN is on) or  (when the wireless LAN is off) on the taskbar, or select [start] - [All Programs] - [Intel PROSet Wireless] - [Intel PROSet Wireless].


2 Select ▼ and select [Wireless On] or [Wireless Off].



The Settings

To use the wireless LAN, set the profile using the following procedure. The settings will vary for different network environments depending on the network system being used. For more details, ask your system administrator or the person in charge of the network.

CAUTION

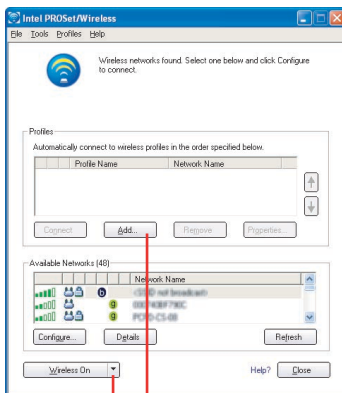
- Set profiles for each user using the following procedure.

1 Double-click  on the taskbar to display [Intel PROSet/Wireless] screen.

When  or  is displayed:
The wireless LAN is on. Skip step **2**.

2 Select (A) and select [Wireless On].

3 Select [Add] (B) in [Profiles].






A B

4 Enter the profile name and Wireless network name (SSID), and make other necessary changes; then select [Next].

- 5** Make necessary changes and select [OK].
- For security, we recommend that you enable encryption (WEP). If you enable WEP, enable encryption on the access point side as well. (The setting described below is only an example. For the other settings, ask your system administrator or the person in charge of the network.)
 - ① Select [WEP] on [Data Encryption].
 - ② Select [64-bit] or [128-bit] from [Encryption Level].
 - ③ Input the Encryption key in [Wireless Security Password (Encryption key)]. In the case of pass phrase: [64-bit (5 characters)] [128-bit (13 characters)]. In the case of hexadecimal: [64-bit (10 digits)] [128-bit (26 digits)].
 - Set the same values for the computer side and the access point side.
 - When using an access point for which "128-bit" can be set (some access points display "104-bit"), we recommend setting data encryption to "128-bit" to prevent unauthorized decryption.
- 6** Select the profile you have set and select [Connect].
- If the setting of the profile that is currently connected is changed, the new setting will not be enabled until you select the profile and then select [Connect].

NOTE

- If  is displayed, the computer is connecting to an access point. Wait for a moment.
 - If  is displayed for a longer time, perform the following procedure.
 - ① Display [Intel PROSet/Wireless] screen. (→ [page 80](#))
 - ② Select again a profile name you want to connect, and select [Connect].
 - If  is not displayed, perform the following procedure.
 - ① Select [start] - [Control Panel] - [Network and Internet Connections] - [Network Connections].
 - ② Right-click [Wireless Network Connection], and select [Properties].
 - ③ Add a checkmark for [Show icon in notification area when connected], and then select [OK].
-

- 7** Select [Close].

NOTE



- For more information about how to use the Intel® PROSet/Wireless Software, refer to [Help] in the menu bar.
-

Using wireless LAN standard IEEE802.11a (802.11a)





In some countries, communication using IEEE802.11a (5 GHz wireless LAN) standard is restricted by law. Comply with the laws in the country concerned. (⇒ *Operating Instructions* "Read Me First")

To use 802.11a, you need to install the Wireless LAN Switch following the procedure below.

- ① Log on to Windows with the administrator authority.
- ② Close all applications.
- ③ Select [start] - [Run], input [c:\util\wlansw\setup.exe] and then select [OK]. Follow the on-screen instructions.
When the installation is complete, the computer will restart automatically.

The Wireless LAN Switch icon  (when the wireless LAN is on) or  (when the wireless LAN is off) will be displayed on the taskbar.

NOTE

- Function of Wireless LAN Switch
 - Turning the wireless LAN on/off by clicking the Wireless LAN Switch ( or ) on the taskbar and selecting [Enable Wireless LAN] or [Disable Wireless LAN].
 - Enabling/disabling 802.11a (→ [page 83](#))
The above settings can be set separately.
 - The Wireless LAN Switch icon ( or ) indicates whether the wireless LAN is on or off. The icon will not change even when 802.11a is enabled or disabled.
 - When the Wireless LAN is turned on/off using the Intel® PROSet/Wireless Software, the Wireless LAN Switch will be turned on/off at the same time.
 - When you uninstall the Wireless LAN Switch:
 - Confirm that [Wireless LAN] is set to [Enable] in the Setup Utility.
-

■ Enable/Disable 802.11a

1 Select the wireless LAN Switch ( or ) on the taskbar.

2 To enable 802.11a:

① Click [Enable 802.11a].

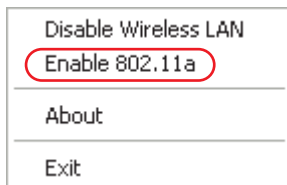
To disable 802.11a:

① Click [Disable 802.11a].

- To use 802.11a, turn the wireless LAN on.
- If 802.11a is enabled or disabled while the computer is connected to an 802.11b/g access point, the connection to the access point will be temporarily interrupted.
- You can change the setting of the wireless LAN standard ([Wireless Mode]) in [Device Manager] using the following procedure:
 - ① Select [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Double-click [Intel(R) PRO/Wireless 2915 ABG Network Connection] at [Network Adapters].
 - ③ Select [Advanced], and then select [Wireless Mode] in [Property].
 - ④ Remove the check mark from [Use default value], and select the settings. (E.g., [802.11a and 802.11g])
 - ⑤ Select [OK].

Switching of communication under the 802.11a standard between enabled or disabled using the Wireless LAN Switch also switches the setting of the wireless LAN standard ([Wireless Mode] in [Device Manager])

Setting in Wireless LAN Switch	802.11a is enabled	⇔	802.11a is disabled
Setting in Device Manager	[802.11a , 802.11b and 802.11g]	⇔	[802.11b and 802.11g]
	[802.11a and 802.11g]	⇔	[802.11g only]
	[802.11a only]	⇔	[802.11b only]



Exchanging Data between Computers Using the Wireless LAN

To communicate between two computers using the wireless LAN and without using an access point, make the following settings on each computer.

- Set the network to be accessed as [Device to device (Ad hoc)].
- Set the network names to the same name.
- Set the network authentication to the same authentication.
- When using encryption, set the same encryption and the same network key on both computers.

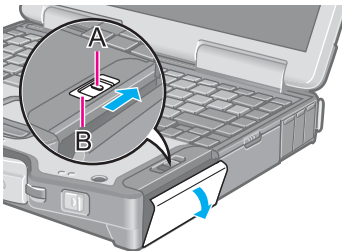
To change your hard disk drive, contact Panasonic Technical Support.

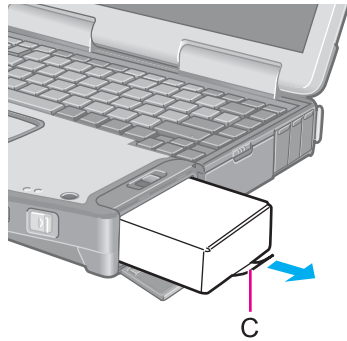
Inserting/Removing the Hard Disk Drive

CAUTION

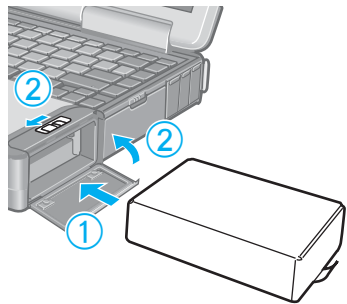
- Be sure to back up all important data before changing the hard disk drive.
- You can erase the data before changing the hard disk drive. ("Hard Disk Data Erase Utility")
- If [Hard Disk Lock] is set to [Enable] in the Setup Utility, change this to [Disable] before changing the hard disk drive.
- Be careful when changing the hard disk drive. The hard disk drive is extremely sensitive to shock. In addition, static electricity could later affect some internal components.

- 1** Power off your computer. (⇒ *Operating Instructions* "Starting Up/ Shutting Down")
 - Do not use the standby or hibernation function.
 - Disconnect the AC adaptor.
- 2** Remove the battery pack. (→ [page 48](#))
- 3** Insert/remove the hard disk drive.
 - Removing the hard disk drive
 - ① Press the button (A), and without releasing it, slide the latch (B) as illustrated to open the cover.





- ② Pull the tab (C) on the hard disk drive and remove it from the computer.



- Inserting the hard disk drive
- ① Slide the hard disk drive inward until it is firmly in place.
 - ② Close the cover, then lock it by sliding the latch as illustrated.

4 Insert the battery pack. (→ [page 48](#))

CAUTION

- Be sure to insert the hard disk drive as illustrated.
- Confirm that the latch lock is correctly in place. If you carry your computer without the latch lock in place, the hard disk drive may fall out.

NOTE

- Whether the hard disk is properly recognized or not can be confirmed in [Information] menu of the Setup Utility (→ [page 89](#)). If the hard disk is not recognized, power off the computer and insert it again.

Running the Setup Utility

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

If [Enter Password] is displayed, enter your password.

When the Setup Utility is started with Supervisor Password

- You can register all items of the Setup Utility.

When the Setup Utility is started with User Password

- You can not register [Advanced] and [Boot] menu.
- On [Security] menu:
 - [Set Supervisor Password] and [Hard Disk Lock] will not be displayed.
 - [Password on boot], [Setup Utility Prompt], [Boot First Menu], [User Password Protection] and [Floppy Operation] will be displayed, but cannot be set.
 - The User Password can be changed only when [User Password Protection] has been set to [No Protection]. The User Password cannot be deleted.
- [Get Default Values] will not be displayed on [Exit] menu.
- **F9** does not work.

NOTE

- When [Password on boot] in the Setup Utility is set to [Disable], the password is not necessary when the computer is started up, but the password becomes necessary when the Setup Utility is started up. This alternative makes it possible to prevent the contents of the Setup Utility from being changed.
- If you fail to press **F2** at the right moment, the Setup Utility will not start up. In this case, power off the computer and try again.
- To close the Setup Utility, press **Esc**, select the exiting method in [Exit] menu, then press **Enter**.

Key Operations

- **F1**
To display the corresponding "help" file.
- **Esc**
To display [Exit] menu.
- **↑ ↓**
To move among the items.
- **← →**
To move among the menus.
- **F5 F6**
To move among the values.
- **Enter**
To display sub-menu of each item selected by ↑ or ↓.
- **F9**
To set default settings (except the password). (When starting up the Setup Utility with the User Password, this key is not available.)
- **F10**
To save the settings and exit.

NOTE

-
- When setting date and time, **Tab** can be used to move the cursor.
-

Information Menu

Language:	[English]
Model No.:	CF-xxxxxxxx
Serial No.:	xxxxxxxx
CPU Type:	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
CPU Speed:	x.xx GHz
BIOS:	Vx.xxLxx
Embedded Controller:	Vx.xxLxx
System Memory:	xxx MB
Primary Master:	xx GB
Secondary Master:	xxxxxxx

■ Parameters

(_ : Default)

Language	<u>English</u> Japanese
----------	----------------------------

Select the language for displaying the Setup Utility.

Main Menu

System Time:	[xx:xx:xx] ^{*1}
System Date:	[xx/xx/xxxx] ^{*2}
Touch Pad:	[Enable]
Touchscreen: ^{*3}	[Enable]
Microphone Jack:	[Auto]
Display:	[Simultaneous]
Display Expansion:	[Enable]
CD/DVD Drive Speed:	[High]
Environment	[Auto]
Current Status: ^{*4}	Normal Temperature

^{*1} Time is shown in 24-hr. style.

^{*2} Date is shown in order of Month/Day/Year.

^{*3} Only for models with touchscreen.

^{*4} This item is displayed only when [Environment] is set to [Auto]. Depending on the battery status, either "Normal Temperature" or "High Temperature" is displayed.

■ Parameters

(__ : Default)

Touch Pad	Disable <u>Enable</u>
Touchscreen	Disable <u>Enable</u>
Microphone Jack	<u>Auto</u> PC
Display ^{*5}	External Monitor Internal LCD <u>Simultaneous</u>

Display Expansion	Disable <u>Enable</u>
CD/DVD Drive Speed	<u>High</u> Low
Environment	Normal Temperature High Temperature <u>Auto</u>

*5 The display destination in cases where Windows is not running is set here. If an external display is not connected, all information will appear on the internal LCD even if [External Monitor] or [Simultaneous] is selected.
After Windows starts up, the screen is displayed on the display destination set in the following menu.
[start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics 2 M] - [Devices]

Advanced Menu

Serial Port A:	[Auto]
Serial Port B:	[Disable]
MP Serial Port:	[Disable]
Parallel Port:	[Auto]
Mode:	[ECP]
CardBus Controller A:	[Enable]
Modem:	[Enable]
LAN:	[Enable]
Boot up from LAN:	[Enable]
Wireless LAN: ^{*1}	[Enable]
Legacy USB Support:	[Enable]

^{*1} Only for models with wireless LAN.

NOTE

- [Advanced] menu cannot be changed when the Setup Utility is started up with the User Password.

■ Parameters

(__ : Default)

Serial Port A	Disable Enable <u>Auto</u>
I/O IRQ ^{*2}	3F8/IRQ4 2F8/IRQ3 3E8/IRQ7 2E8/IRQ5

Serial Port B	Disable Enable <u>Auto</u>
I/O IRQ ^{*2}	3F8/IRQ4 2F8/IRQ3 3E8/IRQ7 2E8/IRQ5
MP Serial Port	<u>Disable</u> Enable Auto
I/O IRQ ^{*2}	3F8/IRQ4 2F8/IRQ3 3E8/IRQ7 2E8/IRQ5
Parallel Port	Disable Enable <u>Auto</u>
Mode ^{*3}	Bi-directional <u>ECP</u> EPP
I/O ^{*2}	378 278 3BC
IRQ ^{*2}	None IRQ5 IRQ7
CardBus Controller A	Disable <u>Enable</u>
Modem	Disable <u>Enable</u>
LAN	Disable <u>Enable</u>
Boot up from LAN ^{*4}	Disable <u>Enable</u>

Wireless LAN	Disable <u>Enable</u>
Legacy USB Support	Disable <u>Enable</u>

*² This item is displayed only when the setting of each port is [Enable].

*³ This item is displayed only when [Parallel Port] is set to [Enable] or [Auto].

*⁴ [Disable] is automatically set when [LAN] is set to [Disable].

Security Menu

Password on boot:	[Enable]
▶Set Supervisor Password:	[Enter]
Setup Utility Prompt:	[Enable]
Boot First Menu:	[Enable]
Hard Disk Lock:	[Disable]
User Password Protection:	[No Protection]
▶Set User Password:	[Enter]
Floppy Operation:	[Enable]

NOTE

- When the Setup Utility is started up with the User Password;
 - [Set Supervisor Password] and [Hard Disk Lock] will not be displayed.
 - [Setup Utility Prompt], [Boot First Menu] and [Floppy Operation] will be displayed, but cannot be set.
 - The User Password can be changed only when [User Password Protection] has been set to [No Protection]. The User Password cannot be deleted.

■ Parameters

(_ : Default)

Password on boot	Disable <u>Enable</u>
Set Supervisor Password	To the sub-menu
Setup Utility Prompt* ¹	Disable <u>Enable</u>
Boot First Menu	Disable <u>Enable</u>

Hard Disk Lock ^{*2}	<u>Disable</u> Enable
User Password Protection	<u>No Protection</u> Protected
Set User Password ^{*2}	To the sub-menu
Floppy Operation	Disable <u>Enable</u>

^{*1} When [Setup Utility Prompt] is set to [Disable], the message "Press F2 for Setup / F12 for LAN" is not displayed on [Panasonic] boot screen. Even if the message is not displayed, **F2** and **F12** will work.

^{*2} Setting impossible when the Supervisor Password is not set.

Boot Menu

```
+Floppy Drive *1*2
+Hard Disk Drive *2
  CD/DVD Drive *3
  LAN *4
```

The default order is as follows:

[Floppy Drive] -> [Hard Disk Drive] -> [CD/DVD Drive] -> [LAN].

To move a device up by one in the order, select the device with **↑** and **↓**, and then press **F6**.

To move a device down by one in the order, select the device with **↑** and **↓**, and then press **F5**.

*1 This is displayed even if the floppy disk drive is not inserted or [Floppy Operation] is set to [Disable] on [Security] menu.

The following drive can be used for startup as an alternative to the internal floppy disk drive.
Panasonic USB floppy disk drive (optional:CF-VFDU03)

*2 "+" is displayed if the device that can be used for startup is connected. Pressing **Enter** expands or collapses devices with a - or +. Pressing **Ctrl + Enter** expands all the devices.

If two or more devices are displayed at [Floppy Drive] or [Hard Disk Drive], select the device you want to use for startup, and then press **F6** until the device is at the top of the menu.

*3 This is displayed even if a CD/DVD drive is not connected.

*4 This is displayed even if [LAN] is set to [Disable] on [Advanced] menu.

NOTE

- [Boot] menu cannot be changed when the Setup Utility is started up with the User Password.
- **Boot Menu**
The device for starting up the operating system can also be selected during computer start-up. After the computer is turned on, and **Esc** is pressed at [Panasonic] boot screen, [Boot Menu] (the device selection screen) will appear. When the setting of [Boot] menu is changed, the selection screen display will also change. [Boot Menu] is displayed only when [Boot First Menu] in [Security] menu is set to [Enable].

Exit Menu

Save Values & Exit
 Exit Without Saving Changes
 Get Default Values *¹
 Load Previous Values
 Save Current Values

 Hard Disk Backup / Restore *²

*¹ This item is not displayed when starting up the Setup Utility with the User Password.

*² Only displayed when a backup area is created.

■ Parameters

Save Values & Exit	Exit the Setup Utility and save your changes to CMOS.
Exit Without Saving Changes	Exit the Setup Utility without saving your changes to CMOS.
Get Default Values	Set the default settings.
Load Previous Values	Load previous values from CMOS for all Setup items.
Save Current Values	Save your changes to CMOS.
Hard Disk Backup / Restore	Backup data to a backup area in the hard disk. Also, restore backed up data to the original hard disk. Before executing, be sure to read "Hard Disk Backup Function" in the <i>Operating Instructions</i> .

Network Connections and Communications Software

If the power saving function (standby or hibernation mode) activates while communications software is being used, the network connection may be interrupted, or performance may be adversely affected. If this happens, restart the computer.

Be sure to close the communications software before using the power saving function.

When using the computer in a network environment, we recommend that you set [System standby] and [System hibernates] to [Never], using the following procedure:

Select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes].

When Using the Files on the Retail Version of the Windows CD-ROM

The Windows files included in the Retail Version of the Windows CD-ROM for each OS are contained in the following folders:

c:\windows\docs, c:\windows\dotnetfx, c:\windows\i386, c:\windows\support,
c:\windows\valueadd

Using the Serial Devices

Each COM port of this computer is assigned to the following serial device.

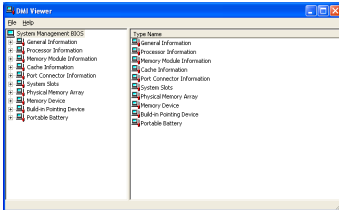
- COM1 : Serial Port A
- COM2 : Serial Port B (Port Replicator^{*1})
- COM3 : GPS^{*1}
- COM4 : Smart Card^{*1}
- COM5 : Modem
- COM6 : MP Serial Port^{*1}
- COM7 : 1st port of wireless modem^{*1}
- COM8 : 2nd port of wireless modem^{*1}

^{*1} Optional

If the above assignment is changed in Device Manager, the serial devices may not work properly.

This computer conforms to the specifications of the Desktop Management Interface (DMI). The DMI Viewer can be used when you want to know information on the internal systems this computer supports, starting with the CPU and memory.

Running DMI Viewer



- 1 Select [DMI Viewer] from [start] - [All Programs] - [Panasonic].
The screen shown at left is displayed.
When you select an item, detailed information on that item will be displayed.

Saving information to a file

Displayed information can be saved to a text file (.txt). Run the DMI Viewer and display the information you wish to save.

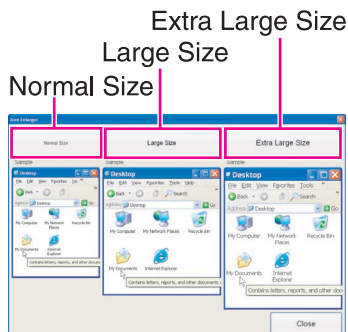
- 1 Select save method.
 - To save the item that is displayed
Select [Save Selected Data] from [File] menu.
 - To save all items
Select [Save All Data] from [File] menu.
- 2 Select the folder, input the file name, then select [Save].

How to magnify the computer screen display

If the characters, icons, title bars, mouse cursor, or other items are too small and difficult to see on the screen, use the "Icon Enlarger," and change the screen display by switching among [Normal Size], [Large Size], and [Extra Large Size].

- Characters on Internet screens^{*1} displayed on Internet Explorer, as well as characters^{*1} in sent and received mail in Outlook Express and characters^{*1} in mail text boxes, change according to the settings in the "Icon Enlarger".
- In the default settings, [Normal Size] is set.

^{*1} Some characters in homepages and HTML e-mails may not be magnified.



- 1 Select [start] - [All Programs] - [Panasonic] - [Icon Enlarger].
- 2 Select the display size as [Normal Size], [Large Size], or [Extra Large Size].
- 3 Select [OK].
The screen will be displayed in the selected size.

NOTE

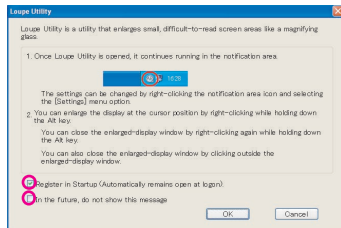
- "Icon Enlarger" will not start up if the display resolution is set lower than 1024 x 768 dots.
- When magnifying screen, a part of the menu or other screen elements may become hidden. In this case, overlay the cursor to display pop-ups, scroll the screen, or use other functions to display the hidden elements.
- Close all running application before starting "Icon Enlarger"


If the characters, images, or other items are too small and difficult to see on the screen, enlarge a part of the screen that you want to see as if using a magnifying glass.

- When using Loupe Utility for the first time, run it from the [start] menu.

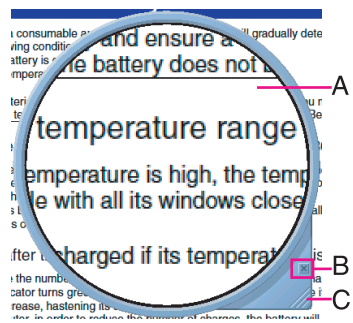
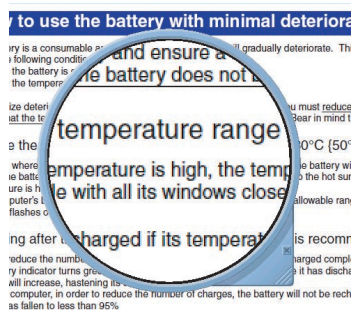
Use Loupe Utility






■ Run Loupe Utility



- 1 Select [start] - [All Programs] - [Panasonic] - [Loupe Utility].
 - If you want to run Loupe Utility automatically when starting Windows next time: Add the check mark for [Register in Startup]. You can change the settings later for whether or not to register at startup.
 - If you do not want to display the confirmation screen when running Loupe Utility next time: Add the check mark for [In the future, do not show this message].
- 2 Select [OK].
 -  will be displayed on the taskbar.

Enlarging a Part of the Screen



- 1 Point the cursor () to the place on the screen where you want to Enlarge.
- 2 Right-click while pressing **Alt**.
 - The area indicated by the cursor will be enlarged.
 - Double-click on  in the taskbar, or right-click on  and select [Show Loupe] to show the enlarged display. (→ [page 104](#))
- 3 Perform the enlarged display
 - A. Enlarged-display window: If you drag this part, the enlarged display will move.
 - B.  (no-show button): If you select , the enlarged-display window will be hidden.
 - Selecting outside the enlarged display or right-clicking while pressing **Alt** again will hide the enlarged-display window, too.
 - C. Changing the size: If you drag this part, you can enlarge/downsize the enlarged-display window.
 - The enlarged/downsized size will differ, depending on the display resolution.

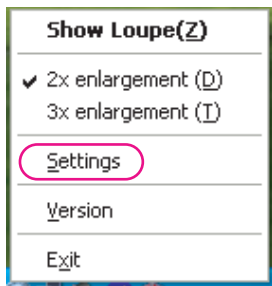
NOTE

- Loupe Utility displays the screen at the moment of the display enlargement (e.g., the moment when the right button is clicked while pressing **Alt**). After the screen has been enlarged, there is no change in the enlarged-display window even if the original screen changes.
To reflect the changes, select the enlarged-display window (A).
- There are some applications that may not be enlarged properly.

Set Loupe Utility



1 Right-click  on the taskbar.



2 Select [Settings].

Changing the operation when showing/hiding the enlarged-display window

Set key combinations for displaying the enlarged-display window by using an external mouse, touch pad, or keyboard.

● When using the external mouse/touch pad

① Select [Mouse/Touch pad](B).

② Select a combination of **Alt**, **Ctrl**, and **Shift**, and add the check mark. (Multiple keys can be combined; for example, **Alt + Ctrl**) (C).

③ Select right-click or left-click (D) with the keys selected in step ②.

● When using the keyboard

① Select [Keyboard](A).

② Select the text box (E), and then press the key used for the shortcut. (e.g., **Alt + Z**, **Alt + Ctrl + Z**, etc.)

Changing the window shape

Select [Circular](F) or [Rectangular](H).

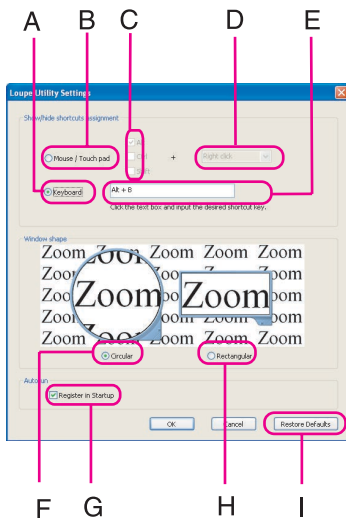
Start up Loupe Utility when Windows is started

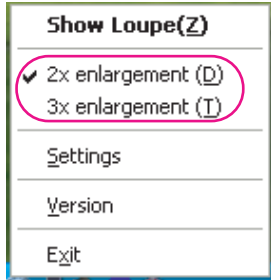
Add the check mark for [Register in Startup](G).


Return Loupe Utility to the default (factory shipment) setting

Select [Restore Defaults](I).

3 Select [OK].





- Select whether to make the display enlargement 2x or 3x.
 - Right-click , and then select [2x enlargement] or [3x enlargement].

List of Error Codes

When turning on the computer, if one of the following error codes or messages is displayed, follow the instructions shown below.

If the problem persists, or if the error code or message displayed is not shown here, contact Panasonic Technical Support.

Error Code/Message	Action
0212: Keyboard error	<ul style="list-style-type: none">● If an external keyboard is connected, disconnect these devices.
0251: System CMOS checksum bad - Default configuration used	<p>An error has occurred in the memory that stores the Setup Utility settings. This error occurs when the memory content is changed through some inadvertent operation by a program or other function.</p> <ul style="list-style-type: none">● Run the Setup Utility and load the default values, then change the settings to the appropriate values as needed. (→ page 87)● If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
0271: Check date and time settings	<p>The data and time setting are incorrect.</p> <ul style="list-style-type: none">● Run the Setup Utility and set the date and time correctly. (→ page 90)● If the problem persists, the internal clock battery may need to be replaced. Contact Panasonic Technical Support.
0280: Previous boot incomplete - Default configuration used	<p>Startup has failed repeatedly, so the Setup Utility settings have been returned to their default values, and the computer has been restarted.</p> <ul style="list-style-type: none">● Run the Setup Utility and load the default values, then change the settings to the appropriate values as needed. (→ page 87)
02B0: Diskette drive A error	<ul style="list-style-type: none">● Disconnect the floppy disk drive and reconnect it. Make sure the drive is secured correctly.

Error Code/Message	Action
0613: Serial Port ^{*1} configuration changed 0614: Serial Port ^{*1} config. error - device disabled ^{*1} The port name, such as A or B, is displayed, indicating the conflicting ports.	I/O address and IRQ settings are in conflict. <ul style="list-style-type: none"> ● Run the Setup Utility and change the settings in [Advanced] menu so there is no port conflicts.
Press <F2> to Setup	<ul style="list-style-type: none"> ● Write down the error details and press F2 to run the Setup Utility. Confirm the settings, and change the settings to the appropriate values as needed. (→ page 87)
Operating System not found	The OS is not properly installed on the floppy disk or the hard disk that you are trying to boot from. <ul style="list-style-type: none"> ● If the computer cannot be booted from the floppy disk, check the floppy disk drive to ensure that the disk is in fact bootable, and change it to another if not. ● If the computer cannot be booted from the hard disk, confirm whether the hard disk is properly recognized in [Information] menu of the Setup Utility. (→ page 89) <ul style="list-style-type: none"> • If the hard disk is recognized, perform the reinstallation procedure. • If not, contact Panasonic Technical Support. ● If a device is connected to the USB port, disconnect the device, or run the Setup Utility and set [Legacy USB Support] in [Advanced] menu to [Disable]. (→ page 92)
Extended RAM Module Failed	<ul style="list-style-type: none"> ● If the extended RAM module has not been inserted properly, or if an extended RAM module other than one matching the specifications has been inserted, a beep will sound and the message “Extended RAM Module Failed” will be displayed when turning the power on. In this case, turn the power off, confirm that the extended RAM module meets the specifications, and reinsert it.

Dealing with Problems (Advanced)

When a problem occurs, refer to this page. If a problem appears to be related to a software application, read the software related manual. If you still cannot troubleshoot the problem, contact Panasonic Technical Support. You can use the PC Information Viewer to check the computer's usage status (→ [page 129](#)).

■ Starting Up

The power indicator or battery indicator is not lit	<ul style="list-style-type: none">● Check the cable connection for the AC adaptor.● Check to see if a fully charged battery is properly inserted.● Remove the battery pack and disconnect the AC adaptor, then connect them again.
The computer does not operate when a USB device is connected	<ul style="list-style-type: none">● The computer may not operate when certain USB devices are connected. Disconnect the USB device, or set [Legacy USB Support] to [Disable] in [Advanced] menu of the Setup Utility.
[Enter Password] is displayed	<ul style="list-style-type: none">● Input your Supervisor Password or User Password. If you have forgotten it, contact Panasonic Technical Support.
POST Startup Error(s) is displayed	→ page 106
Windows startup, or an operation is extremely slow	<ul style="list-style-type: none">● Press F9 in the Setup Utility (→ page 87). This will restore the Setup Utility's settings to their default values (except the password settings). Then, the Setup Utility must be run once again for you to input the appropriate operating environment settings. (The processing speed depends on the application software used, so this operation may not cause the processing speed to increase.)● If you install resident software after purchasing this computer, disable the resident software.
The date and time are incorrect	<ul style="list-style-type: none">● You can set the date and time using the following menu: [start] - [Control Panel] - [Date, Time, Language, and Regional Options] - [Date and Time]● If you continue to experience problems, the internal battery maintaining the clock may need to be replaced. Contact Panasonic Technical Support.● When the computer is connected to a LAN, confirm the date and time of the server.● This computer will not correctly recognize the date and time starting from the year 2100 A.D.

■ Starting Up

<p>When resuming from the standby or hibernation mode, [Enter Password] does not appear even if a password has been set in the Setup Utility</p>	<ul style="list-style-type: none">● Even when a password has been set in the Setup Utility, [Enter Password] does not appear when the computer resumes from the standby or hibernation mode. If you want to use the security function when using the standby or hibernation mode, use the Windows password as follows:<ol style="list-style-type: none">① Select the account to change in [start] - [Control Panel] - [User Accounts] and set the password.② Add the check mark for [Prompt for password when computer resumes from standby] in [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].
<p>When the administrator password is forgotten</p>	<ul style="list-style-type: none">● If you have created a password reset disk (⇒ <i>Operating Instructions</i> "First-time Operation"), a message is displayed when you fail to correctly enter the password. Follow the message's instructions and set the password again by using the password reset disk. If you have not created a password reset disk, after reinstalling, setup Windows and then set the password again.
<p>When "Remove disks or other media. Press any key to restart" (or a similar message) is displayed</p>	<ul style="list-style-type: none">● This means a floppy disk that does not contain system startup information has been left in the floppy disk drive. Remove the floppy disk, and press any key.● This message may appear when certain USB devices are connected. Remove the USB device, or set [Legacy USB support] in [Advanced] menu of the Setup Utility to [Disable].● If the message still appears even after trying the above measures, this may be an indication that some type of hard disk failure has occurred. Contact Panasonic Technical Support.
<p>[Executing Battery Recalibration] screen is displayed</p>	<ul style="list-style-type: none">● This screen appears because the Battery Recalibration was canceled before Windows was shut down last. To start up Windows, turn off the computer by sliding the power switch, and then turn it back on again.

■ Starting Up

<p>When the previous item is not the cause</p>	<ul style="list-style-type: none">● Press F9 in the Setup Utility. This will restore the Setup Utility's settings to their default values (except the password settings).● Try removing all peripheral devices.● Check a disk error using the following procedure.<ol style="list-style-type: none">① Display [Local Disk (C:) Properties]. Select [Local Disk(C:)] with the right button in [start] - [My Computer], and select [Properties].② Select [Tools] - [Check Now].③ Select [Start] after selecting required items in [Check disk options].● At startup, hold down F8 when [Panasonic] boot screen disappears^{*1}, and release your finger when the Windows Advanced Options Menu is displayed. Start the computer in Safe Mode, and confirm the details of the error. <p>^{*1} When [Password on boot] is set to [Enable], [Enter Password] appears after the [Panasonic] boot screen disappears. Hold down F8 soon after inputting the password and pressing Enter.</p>
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■ Display

<p>No display after powering on</p>	<ul style="list-style-type: none">● When there is no display to an external display,<ul style="list-style-type: none">• Check your cable connection to the external display.• Confirm your display is powered on.• Check the settings for your external display.● The display destination may be set to the external display. Try changing the display destination by pressing Fn+F3. If you want to switch the display destination repeatedly by pressing Fn+F3, make sure that the display destination has switched completely each time before pressing Fn+F3 again.● Press Fn+F2 and adjust the brightness.
<p>The power has not been turned off, but after a certain period of time, there is no display</p>	<ul style="list-style-type: none">● Has the computer been set to the power-saving mode? To resume operation of your computer from the condition the power of the display is off (for energy conservation purposes), press any key unrelated to the direct triggering of a selection, like Ctrl.● To save power, your computer may have automatically entered the standby mode (power indicator blinks green) or hibernation mode (power indicator turns off). In such cases, slide the power switch.

■ Display

<p>When the battery pack is used, the screen is darker than when the AC adaptor is connected</p>	<ul style="list-style-type: none"> ● Press Fn+F2 and adjust the brightness. Note, however, that when the brightness is increased, the battery running time will become shorter. Brightness can be set to separate levels for when the AC adaptor is connected and when it is disconnected.
<p>An afterimage appears (e.g., green, red, and blue dots remain on the display) or there are dots not displaying the correct colors</p>	<ul style="list-style-type: none"> ● If an image is displayed for a prolonged period of time, an afterimage may appear. This is not a malfunction. The afterimage will disappear when a different screen is displayed. ● High-precision and advanced technologies are necessary in the production of color liquid crystal displays (color LCDs). Therefore, if 0.002% or less of the picture elements either fail to light or remain constantly lit (that is, more than 99.998% of elements are functioning properly), no defect is considered to exist.
<p>The screen becomes disordered</p>	<ul style="list-style-type: none"> ● 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. Restart the computer.
<p>The external display no longer displays properly</p>	<ul style="list-style-type: none"> ● When an external display not compatible with the power saving mode is used with the computer, the display may not function correctly when the computer enters the power saving mode. In such cases, turn off the power to the external display.
<p>When you want to display the fonts or icons at a larger size</p>	<ul style="list-style-type: none"> ● Change the size of the icons, etc. using "Icon Enlarger" (→ page 101). ● To enlarge a part of the screen, use Loupe Utility (→ page 102).
<p>During simultaneous display, one of the screens becomes disordered</p>	<ul style="list-style-type: none"> ● Try changing the display by pressing Fn+F3. ● If you continue to experience problems, try changing the display destination in the following menu. [start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) Extreme Graphics 2 M] - [Devices] ● When the [Command Prompt] is set to "Full Screen" by pressing Alt + Enter, the picture is displayed on one of the screens only. When the window display is restored by pressing Alt + Enter, the picture is displayed on both screens.
<p>When a moving picture such as an MPEG file is being played with Media Player, the display destination cannot be switched using Fn+F3</p>	<ul style="list-style-type: none"> ● The display destination cannot be switched while a moving picture such as an MPEG file is playing. Stop playing the moving picture before switching the display destination.

■ Setup Utility

[Enter Password] is displayed	<ul style="list-style-type: none">● Enter the Supervisor Password or User Password. If you have forgotten it, contact Panasonic Technical Support.
[Advanced] and [Boot] menu can not be registered	<ul style="list-style-type: none">● Restart the Setup Utility with the Supervisor Password.
Some items in [Security] menu can not be registered	<ul style="list-style-type: none">● Restart the Setup Utility with the Supervisor Password.
F9 does not work	<ul style="list-style-type: none">● Restart the Setup Utility with the Supervisor Password.

■ Shutting Down

Windows cannot be shut down or restarted	<ul style="list-style-type: none">● If a USB device is connected, try removing it.● It may take one or two minutes to shutdown.
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■ Standby/Hibernation Function

Unable to enter standby or hibernation mode	<ul style="list-style-type: none">● If a USB device is connected to the computer (note: only for some USB devices), remove the USB device temporarily. If the problem persists, restart the computer.● It may take one or two minutes to enter the standby or hibernation mode.● The computer may not enter the standby mode while the computer is communicating via the modem.
Unable to automatically enter standby or hibernation mode	<ul style="list-style-type: none">● If a peripheral is connected to the computer, disconnect the device.
The computer does not resume	<ul style="list-style-type: none">● Did you slide the power switch and hold it for four seconds or more? If you slide the power switch and hold it for four seconds or more, the power will be turned off forcibly. In this case, all unsaved data will be lost.● Did you disconnect the AC adaptor or the battery pack while the computer was in standby mode? If the computer's power supply is disconnected while the computer is in standby mode, the unsaved data will be lost.

■ Battery Indicator

The red indicator lights	<ul style="list-style-type: none"> The battery level is very low (the charge is approx. 9% or less). Connect the AC adaptor. You can use the computer when the 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.
The red indicator blinks	<ul style="list-style-type: none"> Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact Panasonic Technical Support. The battery pack or charging circuit may be defective.
The green indicator blinks	<ul style="list-style-type: none"> In high temperature mode, the battery is discharging to the level that corresponds to an 80%^{*1} charge for normal temperature mode. (→ page 44) Do not remove the battery pack while the battery indicator is blinking green. <p>^{*1} In high temperature mode, the level that corresponds to an 80% charge for normal temperature mode is displayed as [100%].</p>
The battery indicator blinks green and orange alternately	<ul style="list-style-type: none"> Warming up the system to prevent hard disk drive malfunctions at low temperature. Leave your computer as is. Once the allowable range requirement is satisfied, your computer will start automatically.
The orange indicator blinks	<ul style="list-style-type: none"> Battery cannot be recharged temporarily because the internal temperature of the battery pack is outside of the acceptable temperature range for recharging. Once the allowable range requirement is satisfied, charging begins automatically. Your computer can be used normally in this state.

■ Keyboard







Only numbers can be input	<ul style="list-style-type: none"> Check whether the indicator  is on. If it is on, the computer is in ten-key keyboard mode. To disable the ten-key mode, press NumLk.
Only capital letters are being input	<ul style="list-style-type: none"> Check whether the indicator  is on. If it is on, the computer is in Caps Lock mode. To disable the Caps Lock mode, press CapsLock.
How to input European characters (ß, à, ç), symbols or Euro Currency Symbol is unclear	<ul style="list-style-type: none"> Display the character map and point to the desired font name, such as European fonts, and select it with the following procedure. Select [start] - [All Programs] - [Accessories] - [System Tools] - [Character Map].

■ Networking: General




Unable to connect to a network	<ul style="list-style-type: none">● Confirm that either [Modem], [LAN] or [Wireless LAN] (only for models with wireless LAN) is set to [Enable] in the Setup Utility.● When using the computer as a network computer, some additional settings may have to be made depending on the usage conditions. We recommend asking your system administrator or the person in charge of the network.● If the standby or hibernation mode is entered, the computer may have to be restarted.● If the link lamp on the HUB unit is not on and the network cannot be accessed, set the speed to match the HUB unit. (→ page 76)
Cannot check the computer's MAC address	<ul style="list-style-type: none">● Check the computer's MAC address using the following procedure:<ol style="list-style-type: none">① Display [Command Prompt]. Select [start] - [All Programs] - [Accessories] - [Command Prompt].② Input [ipconfig /all], and press the Enter key.③ Wireless LAN's MAC address (only for models with wireless LAN): Make a note of the 12-digit string of alphanumeric characters displayed on the wireless LAN's "Physical Address" line. Then input [exit], and press the Enter key. LAN's MAC address: Make a note of the 12-digit string of alphanumeric characters displayed on the LAN's "Physical Address" line. Then input [exit], and press the Enter key.
The following phenomena occur <ul style="list-style-type: none">● The LAN transmission speed slows down dramatically● Wireless LAN connection drops out	→ page 120

■ Networking: Wireless LAN (only for models with wireless LAN)



Access point is not detected

- Shorten the distance between the computer and the access point, and try the detection again.
- It may take some time before the access point is displayed in [Available Networks]. Wait a moment.
- Confirm the following settings:
 - [Wireless LAN] in the [Advanced] menu of the Setup Utility. Confirm that [Wireless LAN] is set to [Enable] (→ [page 92](#)).
 - Wireless device off:
Confirm that  /  /  is displayed on the taskbar.
If  /  /  is not displayed on the taskbar, confirm that [Wireless On] is selected in [Intel PROSet/Wireless] screen. (→ [page 80](#))
Confirm whether the Intel® PROSet/Wireless Software is installed using the following menu.
[start] - [Control Panel] - [Add or Remove Programs].
If it has not been installed,
input [c:\util\drivers\wlan\proset\iProInst.exe EoU=False] in [start] - [Run] to install.
Even if the wireless LAN is on, 802.11a may be set to disable. If 802.11a is to be used, change this setting to enable. (→ [page 83](#))
- This computer uses channels 1 through 11^{*1} when using 802.11b/g. Check the channel being used by the access point.
^{*1} In the case of wireless communications, the frequency band being used can be divided into segments, so that different communications can be conducted on each band segment. A "Channel" refers to the individual frequency bandwidth divisions.
- Some access points have a function that limits automatic access point detection. Confirm the access point's SSID using the access point manual, and make the settings manually on the computer.
- The access point wireless function may be disabled.
Confirm the access point's settings according to the access point manual.
- If you have installed a firewall, change the firewall's settings to enable communications from an access point (register as a computer capable of communications, etc.).

■ Networking: Wireless LAN (only for models with wireless LAN)

Cannot communicate with the access point	<ul style="list-style-type: none">● Confirm that the access point is on.● Confirm that the following settings match with the access point. If these settings do not match, confirm the access point settings, and do the settings on the computer again.<ul style="list-style-type: none">• Network name (SSID or ESSID)• Data encryption• Network authentication• Network key• Key index● Using the following procedure, confirm whether the computer's protocol settings are correct (only when using TCP/IP).<ol style="list-style-type: none">① When  is displayed on the taskbar: Right-click , and select [Open the Network Connection]. When  is not displayed on the taskbar: Select [start] - [Control Panel] - [Network and Internet Connections] - [Network Connections].② Right-click [Wireless Network Connection], and select [Properties] - [General] - [Internet Protocol (TCP/IP)] - [Properties].③ Confirm the protocol settings, such as IP address, and do the settings properly again.● Depending on the access point and settings, access may not be accepted unless the computer's MAC address is registered beforehand. In this case, check the computer's MAC address (→ page 114) and register it according to the operating instructions of the access point.
Communication speed decreases	<ul style="list-style-type: none">● Communication speed may decrease if, aside from the access point to which this computer is connected, there is another access point nearby using the same channel or a similar channel. Change the channel on the connection access point, and check to see if the speed recovers. Confirm method for changing channels using the access point manual.● The rate may drop while a microwave oven is being used.● When using a wireless LAN in an environment that combines both IEEE802.11g and IEEE802.11b, communication speed when using IEEE802.11g may decrease.


■ Networking: Wireless LAN (only for models with wireless LAN)

Communications with access point are cut off	<ul style="list-style-type: none">● Shorten the distance between the computer and the access point, and try the detection again.● If there are multiple access points aside from the access point to which this computer is connected, confirm that different channels have been set for each access point.
Unable to connect to a network	<ul style="list-style-type: none">● Is the IP address of the access point wrong? Following the operating instructions of the access point, set the IP address of the access point again correctly.
Cannot communicate via an ADSL, or cable modem..	<ul style="list-style-type: none">● Check to see whether IP address and DHCP server settings are set as indicated by the ISP provider.
Cannot set wireless LAN to [Enable] or [Disable]	<ul style="list-style-type: none">● It may become impossible to set the wireless LAN to [Enable] or [Disable] if these settings are changed repeatedly on the [Network Connection] screen. In this case, restart the computer.● Press the F9 key in the Setup Utility. This will restore the Setup Utility's settings to their default values (except the password settings).
Cannot communicate using IEEE802.11a	<ul style="list-style-type: none">● Install the Wireless LAN Switch. (→ page 82)
The Wireless LAN Switch icon ( or ) is not displayed.	<ul style="list-style-type: none">● Enable the wireless LAN using [Device Manager] or the Setup Utility.● Install the Wireless LAN Switch. (→ page 82)

■ Connecting Peripherals

An error occurs while installing the driver	<ul style="list-style-type: none">● When you install the driver for a PC Card or peripheral device, be sure to use a driver that is compatible with the operating system. If you use an incompatible driver, malfunction may occur. For information on drivers, contact the manufacturer of the peripheral device you purchased.
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■ Connecting Peripherals

Your peripheral does not work	<ul style="list-style-type: none">● Make sure a driver is installed.● Contact the manufacturer of the product.● When operation resumes from the standby or hibernation mode, devices such as a mouse, modem or PC Cards may not function properly. In such cases, you will need to restart your computer or reinitialize the individual devices.● When  is displayed in the Device Manager, try removing and inserting the device once more. If the problem persists, restart the computer.● Depending on the device connected, the computer may not recognize when the device is connected or disconnected, or the device may not operate properly. Use the following procedure. Select the applied device in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager], then remove the check mark for [Allow the computer to turn off this device to save power] in [Power Management]. (This item may be unavailable for some types of devices.)
External mouse or trackball connected to the external keyboard/mouse port of the port replicator does not work	<p>→ page 16</p>
A PC Card does not work	<ul style="list-style-type: none">● Make sure the card is properly inserted.● Confirm that the card conforms to the PC Card Standard.● Note that after a driver (PC Card driver on other) is installed, the computer must be restarted.● Check that the proper port settings have been made.● Read the operating instructions for the PC Card. Or, you may need to call the manufacturer of the PC Card.● Try removing/reinserting the PC Card by following the proper procedure. (→ page 58)● Confirm that a driver for your operating system has been installed.

■ Connecting Peripherals

<p>USB floppy disk drives do not work as a boot drive</p>	<ul style="list-style-type: none"> ● Only the Panasonic CF-VF03 USB floppy disk drive (optional) can be used. ● Do not connect the floppy disk drive to the USB hub. ● Make sure [Legacy USB Support] is set to [Enable] in the [Advanced] menu of the Setup Utility. ● If two or more devices are displayed at [Floppy Drive] in the [Boot] menu of the Setup Utility, make sure the USB floppy disk drive is at the top of the [Boot] menu (→ page 97) ● After powering off the computer, connect the USB floppy disk drive and restart the computer. ● Remove the floppy disk drive that is inserted inside the multimedia pocket or connected to the parallel port.
<p>You do not know the available RAM module</p>	<p>→ page 60</p>
<p>Cannot tell whether the RAM module has been correctly installed</p>	<ul style="list-style-type: none"> ● If the RAM module is recognized correctly, the total size of the main unit memory and RAM module memory is displayed on the [Information] menu of the Setup Utility (→ page 89). ● If the RAM module is not recognized, turn the computer off and reinsert the RAM module.
<p>The RAM module has not been recognized</p>	<ul style="list-style-type: none"> ● Make sure the RAM module has been properly inserted. ● Use the RAM module that supports the recommended specifications (→ page 60).
<p>The address map for IRQ, I/O port address, etc. is unclear</p>	<ul style="list-style-type: none"> ● The current address map can be displayed with the following procedure. [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager] - [View] - [Resources by type].
<p>The device connected to the serial port does not work</p>	<ul style="list-style-type: none"> ● Check the connection. ● Confirm that the device driver for the serial port works. Refer to the operating instructions of the device. Confirm that two mouse devices are not connected, one through the external keyboard/mouse port of the port replicator and the other through the serial port. ● Try setting [Touch Pad] and [Touchscreen](only for models with touchscreen) to [Disable] in the Setup Utility. ● Confirm that [Serial Port A] (or [Serial Port B]) has not been set to [Disable]. ● Depending on the device, the operable I/O and IRQ may be limited. Try different I/O and IRQ settings in the Setup Utility.

■ Connecting Peripherals

<p>The Serial Port B of the port replicator does not work</p>	<ul style="list-style-type: none"> ● Set [Serial Port B] to [Enable] in the [Advanced] menu of the Setup Utility. ● Try setting [MP Serial Port] to [Disable] in the [Advanced] menu of the Setup Utility.
<p>Unable to print</p>	<ul style="list-style-type: none"> ● Check the computer-printer connection. ● Make sure the printer is on. ● Make sure the printer is in the online state. ● Make sure paper is in the printer tray and there is no paper jam. ● Has the Setup Utility been used to set [Parallel Port] to [Enable] or [Auto]. ● Depending on the printer, EPP or ECP may not work at times.
<p>The following phenomena occur</p> <ul style="list-style-type: none"> ● The LAN transmission speed slows down dramatically ● Poor performance when forwarding data via a PC card (e.g., unstable video images when writing videos to a DV camera using an IEEE1394 PC card) ● <Only for models with wireless LAN> Wireless LAN connection drops out 	<ul style="list-style-type: none"> ● These phenomena may be consequences of performance losses that result from CPU power-saving functions. Execute the following operations after logging on with the administrator authority. <ol style="list-style-type: none"> ① Input [c:\util\cpupower\setup.exe] in [start] - [Run], and select [OK]. Follow the on-screen instructions. ② Select [Performance] in [start] - [All Programs] - [Panasonic] - [CPU Idle Setting] and select [OK], then select [Yes]. The computer will be restarted automatically. <ul style="list-style-type: none"> ● If these phenomena occur even with the above settings, select [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes], select [Always On] from [Power schemes], and select [OK]. ● These operations will be helpful in easing the performance losses resulting from CPU power saving functions, but will not be effective against the phenomena resulting from other causes. (e.g., noise generated during periods of exceptionally high load on the CPU, such as during video playback). ● When these operations are performed, the battery running time will be reduced to some extent. We thus recommend that when these phenomena do not occur, you should select [Battery (Windows XP Standard)] in [CPU Idle Setting], and return [Power schemes] in [Power Options] to [Portable/Laptop].

■ Disk Operations

Cannot read/write to a floppy disk	<ul style="list-style-type: none"> ● Are you using either the internal floppy disk drive or the Panasonic CF-VFDU03 USB floppy disk drive (optional)? ● Has the floppy disk been correctly inserted? ● Has the floppy disk been correctly formatted? ● Has the Setup Utility been used to set [Floppy Operation] to [Enable]? (→ page 95) ● Your floppy disk content may be corrupted.
Unable to write to a disk	<ul style="list-style-type: none"> ● Is the floppy disk write-protected?
How to format a floppy disk is unclear	<ul style="list-style-type: none"> ● Format the floppy disk using the following procedure. Select [My Computer] in [start] and select [3 1/2 Floppy (A:)], then select [File] from the menu and select [Format]. Confirm the disc capacity and the format type, then select [Start] to begin the formatting.
Unable to read/write to the hard disk	<ul style="list-style-type: none"> ● Your drive or file may not have been properly set. ● Check to see if the hard disk is full. If it is full, delete unnecessary files. ● You cannot use a hard disk drive for which [Enable] has been selected in the [Hard Disk Lock] setting of the Setup Utility by another computer. ● Your hard disk content may be corrupted. Contact Panasonic Technical Support.
When the previous item is not the cause	<ul style="list-style-type: none"> ● Try testing another drive or media.


■ Touch Pad / Touchscreen (only for models with touchscreen)

The cursor cannot be controlled properly	<ul style="list-style-type: none"> ● If you are using an external mouse, ensure that the external mouse has been connected correctly. ● Restart the computer by using the keyboard. (Press Alt, U, and select [Restart] with R.) ● If the computer does not respond to keyboard commands, read "No response" (→ page 123).
The cursor does not move in scrolling area of the touch pad	<ul style="list-style-type: none"> ● When the Microsoft® IntelliMouse™ Wheel mode or the original mode is set for the touch pad, only scroll operations are possible for the right part or bottom part of the touch pad. In this case, cursor operations are possible by using the work surface excluding the right part or bottom part. When no mode is set, the entire surface of the touch pad can be used for cursor operations.

■ Touch Pad / Touchscreen (only for models with touchscreen)

Unable to input using the touch pad	<ul style="list-style-type: none"> ● Has the Setup Utility been used to set [Touch Pad] to [Enable]? ● When external mouse drivers are installed (e.g., IntelliMouse), the touch pad may not be used. ● Has the touch pad driver been properly installed?
Unable to point correctly with the stylus included with the computer	<ul style="list-style-type: none"> ● As a result of the physical characteristics of the touchscreen, sometimes the position of the stylus does not match the position of the cursor on the screen. This is not a malfunction. Perform [Calibration]. (→ page 22)
Unable to input by touching the display	<ul style="list-style-type: none"> ● Has the Setup Utility been used to set [Touchscreen] to [Enable]? ● When mouse drivers are installed (i.e. IntelliMouse), the touchscreen is unable to be used. Has the touchscreen driver been properly installed? ● Has the touchscreen driver been properly installed?

■ Sound

The sound is not heard	<ul style="list-style-type: none"> ● Try changing the mute by pressing Fn+F4 or Fn+F6.
Volume does not change when Fn+F5 or Fn+F6 is pressed	<ul style="list-style-type: none"> ● If the Windows sound function is not active, the volume will not change even if  is displayed.
The audio is distorted	<ul style="list-style-type: none"> ● Audio distortion may occur when operations are performed by pressing Fn in combination with another key. Stop playing and start again.
When starting Sound Recorder, it displays the message: "There was an error updating the registry"	<ul style="list-style-type: none"> ● Sound Recorder displays this error message when started by a user with a limited account if the user's language setting is different to that of the user with the administrator authority which last started it. This will not affect the operation of the computer.

■ Fast User Switching Function

<p>Some applications may not work properly</p>	<ul style="list-style-type: none">● When switching to a different user with the Fast User Switching function, the following problems may occur.<ul style="list-style-type: none">• Some applications may not work properly• Key combination with Fn may not work.• It may not be possible to set the settings of the display.• A serial mouse may not work.• <Only for models with wireless LAN> Wireless LAN may not work. <p>In this case, log off all users without using Fast User Switching function, and try the operation once more. If the problem persists, restart the computer.</p>
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■ Others

<p>No response</p>	<ul style="list-style-type: none">● Press Ctrl+Shift+Esc to open Task Manager and close the software application which is not responding.● Is there an input screen (e.g., password input screen at startup) hidden behind another window? Use Alt+Tab to check for other windows being displayed.● After shutting down by sliding the power switch for more than four seconds, slide the power switch to power on and open the application again. If the program no longer works normally, delete the program using the following menu. Then reinstall the program. [start] - [Control Panel] - [Add or Remove Programs]
<p>When trying to play back video files using Windows® Media Player, the message [Codec required] appears, and the file cannot be played back</p>	<ul style="list-style-type: none">● Some video files use a Codec that is not installed as a standard. In these cases, if you play back the video file after connecting to the Internet, the Codec may be downloaded automatically, allowing you to play back the file.

■ Others

<p>Cannot start a network-used program, or cannot share files or printers</p>	<ul style="list-style-type: none">● If you cannot start up a program or share files, this may be because the “Firewall (Windows Firewall)” in the “Windows Security Center” is set to be enabled. If this function is set to be enabled, damage from viruses and other attacks is reduced, but some programs and functions cannot be operated. To use the program or to share files or printers: You can use programs or other functions without the effects of the Windows Firewall by registering them as an exception in the Windows Firewall settings (it is not necessary to disable the Windows Firewall). Note, however, that if a program is registered as an exception, there is a risk of damage from viruses or other attacks. Before registering a program as an exception, confirm the program’s safety with the manufacturer or other reliable source.<ol style="list-style-type: none">① Select [start] - [Control Panel] - [Security Center] - [Windows Firewall].② Select [Exceptions].③ <u>To register a network game or other programs as an exception:</u> Select [Add Program], select the program, and select [OK]. <u>To set access through a specified port as an exception:</u> Select [Add Port], set the port, and select [OK]. <u>To set a file or printer as an exception:</u> Add the check mark for [File and Printer Sharing].④ Confirm that there is a check mark for the item to be set as an exception, and select [OK].
<p>Is it necessary to enable the Windows Firewall?</p>	<ul style="list-style-type: none">● The Windows Firewall is a security function designed to protect your computer from unauthorized access via the Internet and other external networks. The firewall regulates the data exchanged between the computer and the external network, so that only approved data can pass through. We recommend that you use your computer with the Firewall enabled to minimize damage from viruses and other malicious attacks.● When installing additional commercially available firewall software, we recommend that you disable the Windows Firewall settings, as the new software may interfere with the Windows Firewall functions. For details, refer to the manual accompanying the firewall software to be installed.

■ Others


<p>When “Automatic Updates” is enabled, will all updates be downloaded (or installed)?</p>	<ul style="list-style-type: none">● Only Windows Update programs with a high level of priority will be automatically downloaded (or installed). Update programs with a comparatively low level of importance will not be downloaded (or installed) automatically. Check regularly whether new update programs have become available.
<p>Security Center warning function does not operate</p>	<ul style="list-style-type: none">● The Security Center warning function will not operate if you are using a network domain, for example at a company.
<p>Problem with Web page display (no display; display is completely white; advertisements, logon, and other pop-ups are not displayed)</p>	<ul style="list-style-type: none">● In Windows XP, security functions have been strengthened with regard to Web contents. One of these is the “Pop-up Blocker,” which may prevent some Web pages from being displayed. If you have any problems with Web page displays (e.g., if a page cannot be displayed correctly on Internet Explorer), check the contents of the message window displayed below the address bar (called the “Information Bar”). The Information Bar shows the information that has been suppressed by Internet Explorer.<ul style="list-style-type: none">● If the message “Pop-up blocked” is displayed: Select the message, and select “Temporarily Allow Pop-ups.” The blocked Popup will be displayed temporarily.● If the message “This site might require the following ActiveX control...” is displayed:<ol style="list-style-type: none">① Select the message, and select “Install ActiveX Control.”② Check “Name” and “Publisher” on the [Security Warning] screen, and execute the installation.● If you cannot find the Information Bar: If you need to display the page, select the Web page link while pressing Ctrl. The pop-up blocker function will be temporarily disabled.

■ Others



Images in HTML e-mail messages are not displayed in Outlook Express	<ul style="list-style-type: none">● In Windows XP, there is a function that blocks image displays in HTML e-mail messages. To display images in HTML e-mail messages, it is necessary to access the sender's server, and this may cause problems in the computer. Preventing these images from appearing can decrease the risk of attack from viruses etc. If you need to display images, select the segment where the message "Some pictures have been blocked..." is displayed. The images can be displayed temporarily.
Cannot read attachment file in Outlook Express (cannot save file)	<ul style="list-style-type: none">● If a message received in Outlook Express has contained an attachment file with an extension such as ".exe" or ".scr" (potentially unsafe files), Windows XP blocks those files. If you need to read the files, select [Tools] - [Options] - [Security] and remove the check mark from [Do not allow attachments to be saved or opened that could potentially be a virus].

■ Others

The message “Your computer might be at risk” is displayed

- This message is displayed by the “Security Center” function in Windows XP. The “Security Center” is a function that monitors the level of safety in Windows security settings in order to operate the computer safely, for example, with regard to antivirus measures. It checks the following three items regularly, and displays messages until the settings are made at an appropriate level of safety.
 - Firewall: Is the Windows Firewall enabled?
 - Automatic Updates: Is the automatic Windows Update function enabled?
 - Virus Protection: Has antivirus software been installed, has the latest version of the antivirus software been installed, and is the real-time search function enabled (ON)?
- The message “Your computer might be at risk” is displayed by the “Security Center” function, and does not indicate an error or malfunction. The “Security Center” function checks the above three items to ensure that your computer can be used safely, and notifies the user if the settings are not at an appropriate level of safety. You can continue to use the computer even if these messages continue to be displayed, but we recommend that you follow the procedures below to minimize damage from viruses.
 - ① Read the message.
 - ② Select  (red icon) on the taskbar. The [Windows Security Center] screen will be displayed.
 - ③ Select [Recommendations] in [Firewall] or [Virus Protection], or select [Turn on Automatic Updates] in [Automatic Updates]. If measures are not required, [Recommendations] or [Turn on Automatic Updates] will not be displayed.
 - ④ Execute the appropriate measures, following the instructions in the [Recommendation] screen.

■ Others

 is displayed	<ul style="list-style-type: none">● This message is displayed because the “Automatic Updates” setting in the “Security Center” is disabled or is not set. (Settings have not been made at the time of purchase.) “Automatic Updates” is a function that regularly checks whether high-priority update programs (security updates, etc.) have been provided to Windows Update, and automatically installs these programs to maintain Windows in its latest condition. You can continue using the computer even if these messages continue to be displayed, but we recommend that “Automatic Updates” is set as [Automatic] to maintain its latest condition.<ol style="list-style-type: none">① Read the message.② Select  (yellow icon) on the taskbar. The [Automatic Updates] screen will be displayed.③ Select [More options], and set the Automatic Updates to [Automatic].
Some applications do not work properly	<ul style="list-style-type: none">● Some software applications installed after the time of purchase are not compatible with Windows XP Service Pack 2. Refer to software maker’s homepage or other sources.● If a network-used program is not compatible, also refer to “Cannot start a network-used program.” (→ page 124)

Check the Computer's Usage Status

You can use the PC Information Viewer to check the computer's usage status, and use this information when calling Panasonic Technical Support for advice. (If you have not logged on with the administrator authority, some information will be displayed as [Not Found].)

■ Running PC Information Viewer

- ① Select [start] - [All Programs] - [Panasonic] - [PC Information Viewer] - [PC Information Viewer].

Click on the menu items to display detailed information for each item.

- The [PC Information Viewer] screen is always displayed on the top of every other screen.

■ Save information to a file

Displayed information can be saved to a text file(.txt).

- ① Run the PC Information Viewer and display the information you wish to save.
- ② Select [Save].
 - To save the item that is displayed
Select [Save only the information displayed] and select [OK].
Some of the hidden information on the screen, which cannot be shown without scrolling the screen, will be saved, too.
 - To save all items
Select [Save all the information] and select [OK].
- ③ Select the folder, input the file name, then select [Save].

■ Save a copy of the screen to a file

You can save a copy of the screen currently being displayed to a file in bitmap format (.bmp).

- ① Display the screen you want to save.
- ② Press **Ctrl+Alt+F8**.
- ③ When a message "The copy of the screen was saved..." is displayed, select [OK].

[pcinfo.bmp] file will be saved in [My Documents] folder. If [pcinfo.bmp] file already exists, it will be overwritten. (If [pcinfo.bmp] file is set as a "Read-only" or "Hidden" file, the new file cannot be saved.)

NOTE

- You can also save a copy of the screen to a file using the following procedure. Select [start] - [All Programs] - [Panasonic] - [PC Information Viewer] - [Screen Copy].
 - At the time of purchase, the computer is set so that a copy of the screen can be saved to a file by pressing **Ctrl+Alt+F8**. This setting can be changed using the following procedure.
 - ① Select [start] - [All Programs] - [Panasonic] - [PC Information Viewer].
 - ② Select [Screen Copy] with the right button, and select [Properties] - [Shortcut].
 - ③ Move the cursor to [Shortcut key], and press the key to be used for the shortcut.
 - Colors are saved in 256 colors.
 - When using an Extended Desktop
A copy of the screen displayed on the primary device will be saved.
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