

Panasonic®

Personal Computer Reference Manual


Model No. **CF-T2 Series**

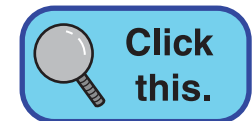


For backup proposes Panasonic recommends that this Reference Manual be printed.

To magnify the screen display of this Reference Manual




To magnify all the icon display (for example,  etc.



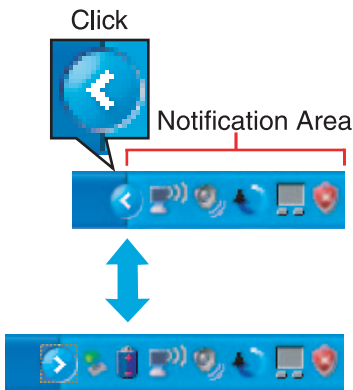
To magnify the one part of the screen display



- Some of the illustrations in this manual may differ slightly in shape from the actual items on your computer. This should make the explanations easier to understand.
- If a user has logged on to Windows without the administrator authority, some functions may not be executable, and some screens may not be displayed as shown in this manual. If this happens, log-on to Windows with the administrator authority to enable these functions.
- In this manual, “Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies” is indicated as “Windows” or “Windows XP”

- If the icon on the notification area being explained in this manual is hidden and not displayed, click on the  icon to display all icons.

(The icons on the notification area used in this manual are only examples. The actual types and order of icons may differ depending on your operating environment; for example, settings of various functions and connected devices.)



- **Optional Products or Accessories**
Confirm the latest information on optional products or accessories from various sources.

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 <u>Enter</u> key.
<u>Fn+F5</u>	This illustration means to press and hold the <u>Fn</u> key, then press the <u>F5</u> key. When using with the <u>Fn</u> key and the <u>Ctrl</u> key functions interchanged, read with the <u>Fn</u> key and the <u>Ctrl</u> key reversed.
[start] - [Run]	This illustration means to click [start], then to click [Run].
→ or ⇒	These symbols indicate related pages. → : If this is clicked, it will jump to the page corresponding Reference Manual. ⇒ : Refer to the Operating Instructions.
XXXX ^{*1}	If ^{*1} is clicked, it will jump to a related topic.

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 between the internal LCD and the external displays.

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]:

Click [start] - [Control Panel], from the [See Also] area click [Other Control Panel Options], and then click [Intel(R) Extreme Graphics].

How to Use this Reference Manual

In this Reference Manual, you can use the following method to display the desired page, or search for a page using a text string. (The screen shown is only an example.)




Search


If you cannot locate a page using a text string search, try entering a segment of the text string.
e.g.: If you cannot find a page using "Fn key", try searching with "Fn" or "key".

Hand Tool

Click on "Chapter X" to display the top page for the first item in that chapter.

Click to display the top page of the item.

If you click on , it will change to , and the sub-items under that line  will be hidden.

If you click on , the hidden items will be displayed.

You can adjust the width of the index by dragging the edge to the right or left.

Go to previous view/next view according to the history of the pages that have been opened.

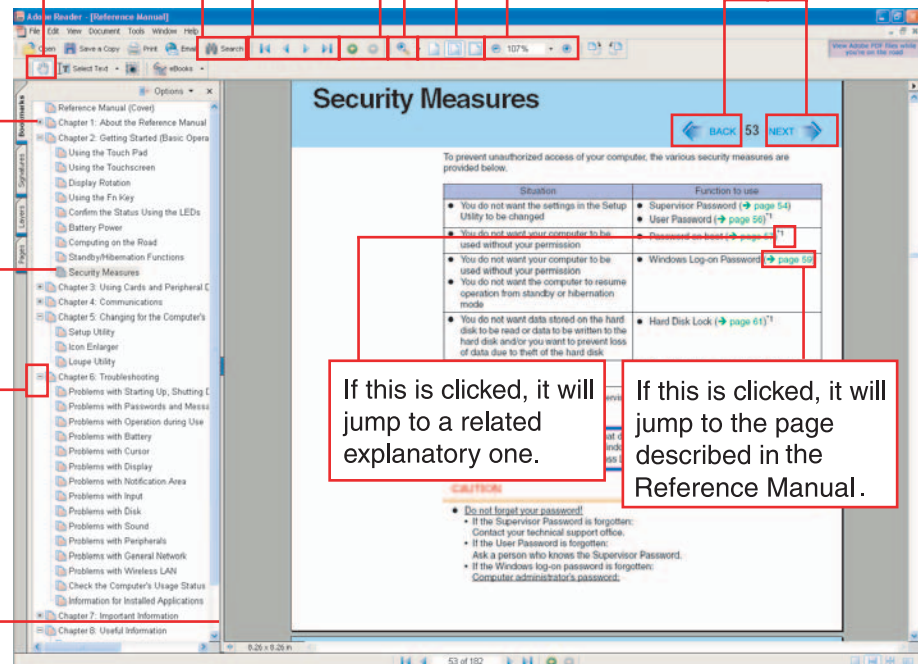
Move to page

Zoom In Tool

Change the size

Zoom In/Out

Move to page



If this is clicked, it will jump to a related explanatory one.

If this is clicked, it will jump to the page described in the Reference Manual.

Magnify this Reference Manual Display

If the characters, icons, etc. in the Reference Manual are too small and too difficult to see, you can magnify them as follows.


- 1 Click  to use Zoom In Tools.

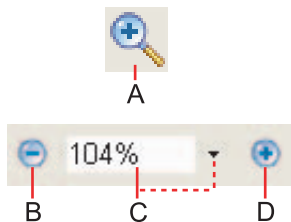


- 2 To magnify the display and make it easier to see, position the cursor and click on the segment you want to expand.
 - If it is magnified too much, click on the same segment while holding down the **Ctrl** key to reduce the size.

- 3 When required, click on  and drag it to the screen to display the segment you want to see.

This Reference Manual is displayed using Adobe Reader. Adobe Reader uses the following methods to magnify and reduce the display size.

- Tools for magnifying/reducing the display
 - A. Zoom In Tool: Click to enlarge the display in the area around the position that was clicked. Drag to magnify the display in the area selected.
 - B. Zoom Out: Display size is reduced each time this button is clicked.
 - C. Enter the percentage for magnification/reduction, and press the **Enter** key to change the display to the specified size. (You can click on the  and select from the values displayed.)
 - D. Zoom In: Display size is magnified each time this button is clicked.





- Tools for displaying contents at a selected magnification
 - E. Actual Size: Click to display contents at the size used when the Reference Manual is opened from the [start] menu.
 - F. Fit Page: Click to display the contents for a single page.
 - G. Fit Width: Click to magnify or reduce the size of the display to match the width of the screen.

Print this Reference Manual

NOTE


- A printer (sold separately) is required to print out this Reference Manual.
- Depending on the printer, the illustrations and screen samples may not be printed clearly.

1

Confirm the page to be printed.

- To print out only the page currently being displayed: Leave that page on the display.
- To print out a specified page: Confirm the page number.

2

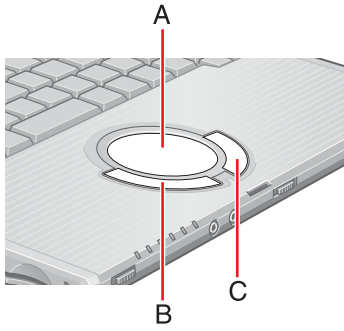
Click on .

3

Set [Printer], [Print Range], and other settings, and click [OK].

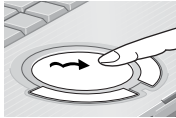
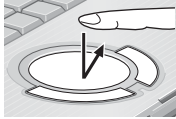
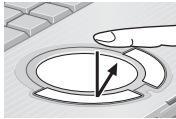



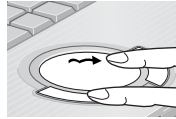
- If the page is printed with a different orientation: Remove the check mark from [Auto-Rotate and Center].

Using the Touch Pad



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

- A. Work Surface (touch pad)
- B. Left Button
- C. Right Button

Function	Operation	
Moving the Cursor		Move the tip of your finger lightly over the work surface.
Tapping/Clicking	 tapping	or  clicking To right-click: Can only be performed by clicking 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.
Vertical/Horizontal Scroll	Trace a circle around the touch pad. (→ page 9)	

NOTE

- You can change the speed of the double-click or the operations of mouse buttons using [Mouse Properties] screen.
To display [Mouse Properties]:
Click [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse].

◆ When the cursor doesn't move the way you want it to

- Sensitivity when touching the touch pad can be adjusted. (→ [page 16](#))
- When an external mouse is connected and the cursor does not operate properly:
In the [Main] menu of the Setup Utility, set [Touch Pad] to [Disable]. When you want to use the touch pad again, return the setting to [Enable]. (→ [page 113](#))

Scroll

There are two ways of scrolling with the touch pad: the Touch Pad utility, and the Virtual Scroll function. You cannot use both functions at the same time.

The Touch Pad utility is enabled at the time of purchase.

- The Touch Pad utility
 - You can scroll continuously by tracing a circle on the touch pad.
 - This is designed for ease of use, in keeping with the shape of the touch pad.

Vertical scroll	It can be used at the time of purchase.
Horizontal scroll	A setting is required to use the horizontal scroll. (→ page 10)

- The Virtual Scrolling Function (→ [page 14](#))
 - You can scroll vertically (or horizontally) by tracing repeatedly in the desired direction.
 - This is the same operation as that used on square touch pads installed in other computers.

Vertical scroll	The virtual scroll function must be set to enable.
Horizontal scroll	

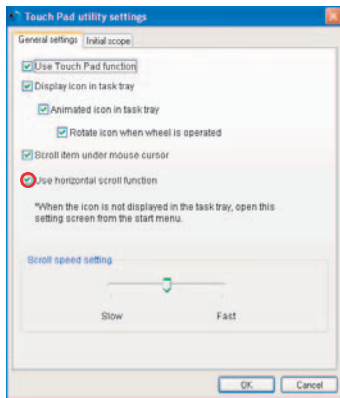
- You can use separate settings for each account regarding whether to use the Touch Pad utility or the Virtual Scroll function.

Using the Touch Pad Utility

You can scroll easily by tracing a circle on the touch pad.

NOTE


- In some cases, such as when using an external mouse or installing a driver for an external mouse, or when using certain applications, the operations may differ, or the scroll function may not operate properly.
- On screens that can only scroll in one direction, either vertical or horizontal, the scroll function will only work in that direction regardless of the operation of the touch pad. (For example, on a screen that will only scroll horizontally, even if you execute a vertical scroll, the screen will scroll horizontally.)
- When using an external mouse: → [page 88](#)




1

Make the following settings to use the horizontal scroll.

Once the settings have been made, it is not necessary to make the same settings the next time.

- ① Click on the Scroll Icon  on the notification area at the bottom right of the screen, and click [Settings].

If the  icon is not displayed, click on [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings].

If a message appears indicating that the Touch Pad utility is not yet running, click [start] - [All Programs] - [Panasonic] - [Touch Pad utility], and display the

 icon.

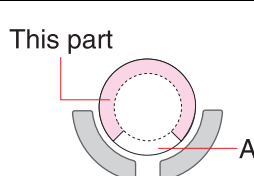
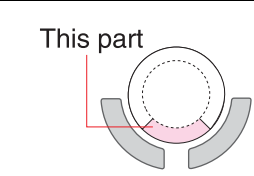


- ② Add a check mark for [Use horizontal scroll function] in the [General settings] screen, and click [OK].

2

Display the scrollable screen.

3 Place the cursor over the area that you want to scroll, and tap (click).

4 Lift up your finger, and place it in the area around the touch pad.
(See diagram below)




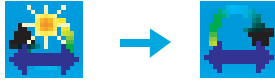




	Vertical scroll ^{*1}	Horizontal scroll ^{*2}
Position where finger is placed		
Icon on the notification area	When you place your finger on the touch pad, the icon changes.	
		

^{*1} If the horizontal scroll function has not been enabled, the segment shown in the diagram above (A) is also included in the position where the finger is placed.

^{*2} In the following cases, any scrolling will be vertical scrolling.

- When the horizontal scroll function has not been enabled
- When the application software is not compatible with the horizontal scroll on the Touch Pad utility
- When the cursor is not placed over the area that you want to scroll

- 5** Trace a circle around the touch pad without lifting your finger from the pad.

	Vertical scroll	Horizontal scroll ^{*1}
Trace clock-wise	To scroll down 	To scroll right 
Icon on the notification area	While scrolling, the icon will rotate clockwise.	
		
	Vertical scroll	Horizontal scroll ^{*1}
Trace counter-clock-wise	To scroll up 	To scroll left 
Icon on the notification area	While scrolling, the icon will rotate counter-clockwise.	
		

- ^{*1} In the following cases, any scrolling will be vertical scrolling.
- When the horizontal scroll function has not been enabled
 - When the application software is not compatible with the horizontal scroll on the Touch Pad utility
 - When the cursor is not placed over the area that you want to scroll
- On screens that cannot be scrolled (e.g., desktop screen), if you scroll, the computer may try to scroll the screen, causing the cursor to freeze. If this happens, remove your finger from the touch pad and begin again, this time starting from the center of the touch pad.

6

Once scrolling has begun, continue to trace a circle on the touch pad without removing your finger from the pad.

- As long as you are tracing a circle, you can continue scrolling using any position on the touch pad. It is not necessary to trace a circle around the edge of the pad.
- To scroll in the opposite direction, trace a circle in the opposite direction without removing your finger from the touch pad.

7

When you finish scrolling, remove your finger from the touch pad.

NOTE

- You can change various touch pad settings using the following procedure:

① Click on the  icon on the notification area, and then click [Settings].

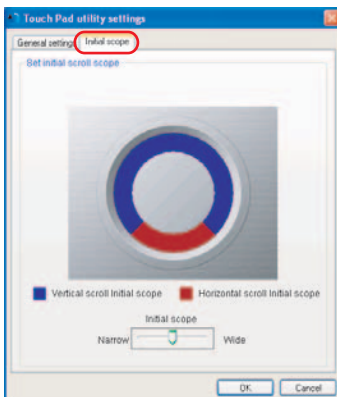
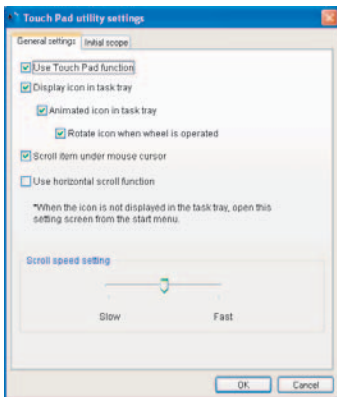
If the  icon is not displayed on the notification area:

Click [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings].

② Changeable settings are:

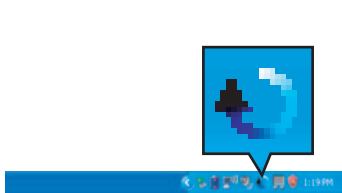
- General settings
 - Use Touch Pad function (On/Off)
 - Display icon in task tray (On/Off)
 - Animated icon in task tray (On/Off)
 - Rotate icon when wheel is operated (On/Off)
 - Scroll item under mouse cursor (not requiring selection of the area in the active window for scrolling)/Do not scroll (requiring selection of the area in the active window for scrolling)
 - Use horizontal scroll function (On/Off)
 - Scroll speed setting
- Initial scope
 - Set initial scroll scope




③ Click [OK].





Using the Virtual Scrolling Function

Set the Virtual Scrolling function using the following procedure. The Touch Pad utility will be disabled.

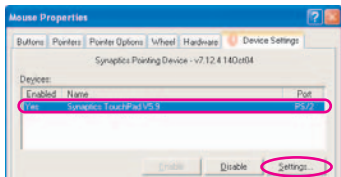


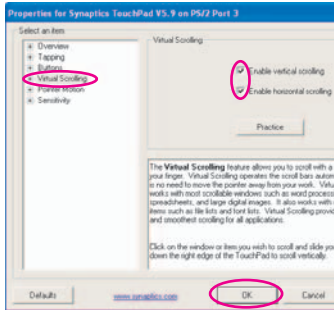
- 1 Click on the  icon on the notification area, and click [Settings].
If the  icon is not displayed, click on [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings].
If a message appears, indicating that the Touch Pad utility is not yet running, click [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings], and display the  icon.

- 2 Remove a check mark from [Use Touch Pad function] in [General settings], and then click [OK].
The  icon on the notification area will change to the  icon.

- 3 Click [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse] - [Device Settings].

- 4 Click the device name in [Devices] (e.g., Synaptics TouchPad), then click [Settings].



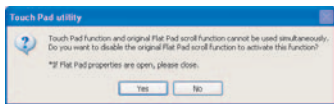


- 5** Click [Virtual Scrolling], add a check mark for the scroll functions you want to use, then click [OK].

- 6** Click [OK] at [Mouse Properties].

NOTE

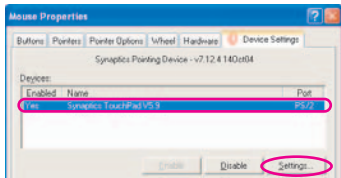
- To begin using the Touch Pad utility again:
 - ① Conduct steps **3** to **4** in previous page.
 - ② Click [Virtual Scrolling], remove a check mark from [Enable vertical scrolling] and [Enable horizontal scrolling], then click [OK].
 - ③ Click [OK] at [Mouse Properties].
 - ④ Click [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings].
 - ⑤ Click [General settings], add a check mark for [Use Touch Pad function], then click [OK].
- Because the Touch Pad utility and the Virtual Scrolling function both offer scrolling functions that use the touch pad, these two features cannot be used simultaneously. If you try to use them at the same time, a message may be displayed asking you if you want to enable the Touch Pad utility.
 - To use the Touch Pad utility:
Click [Yes]. The Virtual Scrolling function will be disabled
 - To use the Virtual Scrolling function:
Click [No].



Adjusting the Sensitivity when Touching the Touch Pad

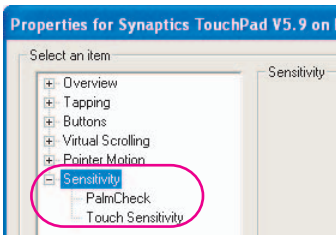
Adjust [PalmCheck] and [Touch Sensitivity] using the following procedure:

1 Click [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse] - [Device Settings].



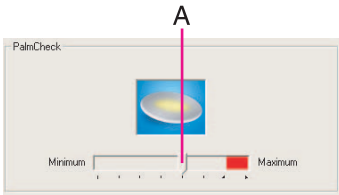
2 Click the device name in [Devices] (e.g. Synaptics TouchPad), then click [Settings].

3 Double-click [Sensitivity], then click [PalmCheck] or [Touch Sensitivity].

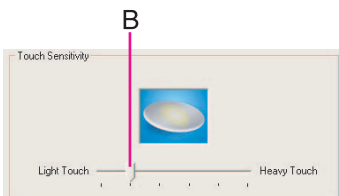


4 After making the adjustment, click [OK].

◆ PalmCheck™



- When operating the keyboard, if your hand touches the touch pad unintentionally causing the cursor to move, adjust the sensitivity using "PalmCheck™."
 - By dragging slide bar (A) to the [Maximum] position, you can prevent the cursor from moving unintentionally.
 - By dragging slide bar (A) to the [Minimum] position, you can enable the cursor to move even with a light touch of the palm on the touch pad.



◆ Touch Sensitivity

- When operating the touch pad, if your finger touches the touch pad, unintentionally causing the cursor to move; or if the cursor does not move even when you move your finger above the touch pad, adjust the sensitivity using the "Touch Sensitivity" setting.
 - When slide bar (B) is dragged to the [Heavy Touch] position, the cursor will only move with a strong touch on the touch pad.
 - When slide bar (B) is dragged to the [Light Touch] position, the cursor will move even with a light touch on the touch pad.

NOTE

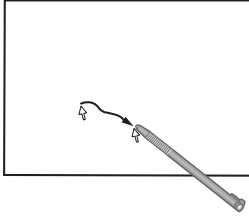
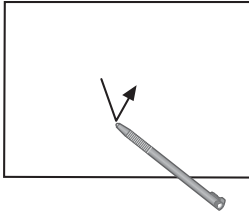
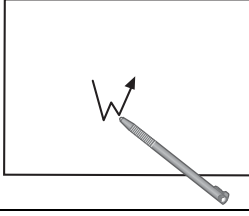
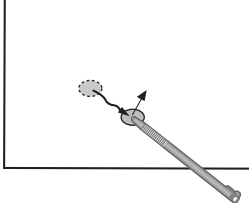
- Click on [Defaults] to return the settings to their original positions at the time of purchase.

Handling the Touch Pad











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


Using the 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). The following explanation gives one example (for the default settings). The operation settings can be changed. (→ [page 21](#))

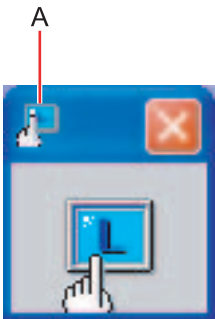
Functions	Operation
Moving the cursor	 <p>The cursor is moved to the location pointed by the stylus.</p>
Clicking (Tapping)	 <p>One tap</p>
Double-clicking (Double-tapping)	 <p>Two quick taps</p>
Dragging	 <p>Touch and hold the object (i.e. file or icon), move the stylus on the surface (dragging the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

■ To right-click:

- Use  on the notification area.
 - ① Click  on the notification area.
 -  changes to .
 - ② Click the object you want to right-click.
 -  changes to .
 - If you make a mistake and click , click  to return to .
- Use button selector.
 - ① Right-click on  on the notification area, and click [Button selector].




The screen on the left will be displayed. Operation method is the same as  on the notification area (see above).

 - If you want to keep this screen visible at all times, click (A), and select to add a check mark for [Always on top].




CAUTION

- When the internal LCD is used alone or with an external display simultaneously, the touchscreen function cannot be used 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 21](#))
- When mouse drivers are installed (e.g., Intellimouse), the touchscreen function may not be used.
- When the operation of panning (only the internal LCD) is performed while the display resolution is set higher than the resolution of the internal LCD, the touchscreen function will not work properly.
- 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].
- If [Left-handed] is clicked in [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse] - [Buttons] - [Other Pointing Devices] (in [Button configuration] - [Devices]),

the touchscreen switching icon on the notification area is changed to . In this case,  indicates “tapping,” and  indicates “right-click.”


NOTE

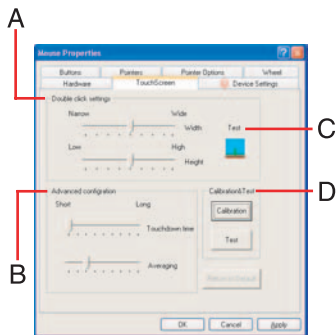
- Double-click  on the desktop to view [Important Tips] for using the touchscreen.
Important Tips
- You can also view [Important Tips] using the following procedures.
Click [Important Tips] in [start] - [All Programs] - [Panasonic] - [On-Line Manuals].
-

Configuring the Touchscreen

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

1 Display [Mouse Properties] screen.

Double-click  on the notification area and then click [TouchScreen] or click [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 the **Enter** key is pressed.

2 Make necessary changes and click [OK].

NOTE

- The double-click speed of the touchscreen can be changed in [Buttons].
- For more information, click  at the upper right corner.
- Rotate the display to [0 degrees] before performing the calibration. (→ page 23)

Handling the Touchscreen


- Use the stylus included with the computer. Do not use pencils, implements with sharp tips or hard objects for screen operations.
The screen may be damaged as a result.
- 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 apply pressure to the perimeter of the display panel. The cursor may move to the edge of the display.
- 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.


After Windows is started up, you can rotate the display and perform the touch pad and touchscreen operations in the rotated mode.

Rotating the Display

- 1 Double-click  on the notification area or press the **Ctrl + Alt + R** key.

Each time this operation is performed, the screen display switches between the landscape mode (0 degrees) and the previously set angle (→ [page 24](#)).

◆ To select the angle and rotate the display

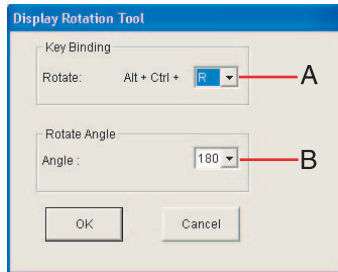
- 1 Right-click  on the notification area, and then select the angle. You can select rotation angles of 90, 180, or 270 degrees from the landscape mode.


NOTE

- Be sure to use the above procedures to rotate the display.

Changing the Settings

By using the Display Rotation Tool, you can change the settings of the display rotation.



1 Right-click  on the notification area, and then click [Setting...].

2 Change the settings.

- A. Changing the key combination
(Only the third key can be changed.)
- B. Changing the angle
(Default: 180 degrees)

3 Click [OK].

Exiting the Tool

1 Rotate the display to landscape mode (0 degree).

2 Right-click  on the notification area, and then click [Exit].

- In the default mode, the Display Rotation Tool will start up when Windows starts up.
- To restart the tool after exiting:
Click [start] - [All Programs] - [Panasonic] - [Display Rotation Tool].

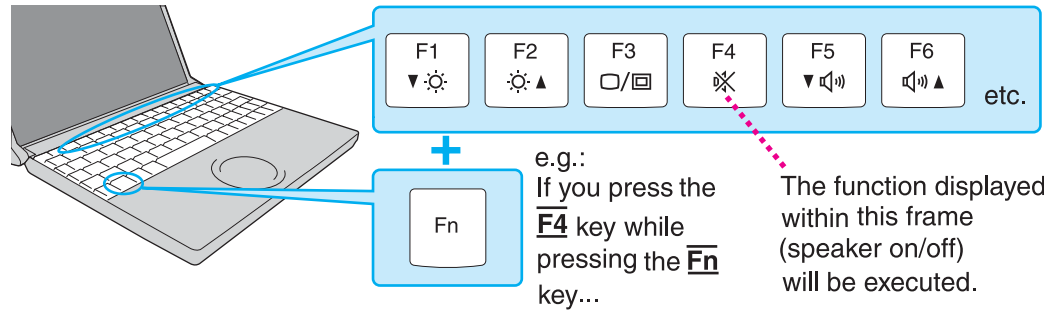
NOTE

- The display cannot be rotated when the [Command Prompt] is set to "Full Screen".

- When some applications are running, the display may not be rotated and the operation of the touch pad and the touchscreen may not match the display angle. Press the **Ctrl+Alt+R** key to rotate the display to the landscape mode. After exiting the application, rotate the display, then start up the application again.
 - The computer's performance will decrease somewhat.
 - While the display is rotated:
 - Do not use the Extended Desktop (The touch pad or touchscreen may fail to operate properly).
 - Do not calibrate the touchscreen.
 - Do not set the display resolution larger than the resolution of the internal LCD.
 - If moving video is played while the display is rotated, the picture may not be displayed properly or the sound may be broken up. This problem can be corrected by rotating the display to [0 degrees].
 - The touch pad scroll function does not work while the display is rotated.
 - Do not use the Fast User Switching Function while the display is rotated.
 - If the display is rotated when the resolution is set to 800 x 600 pixels, depending on the Windows specifications, incorrect values may be shown for the resolution displayed in [Screen resolution] of [Display Properties]. Continue using these settings, without changing [Screen resolution].
-

Using the Fn Key

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




CAUTION




- Do not press the following key combinations repeatedly in (quick) succession. Also, do not press different key combinations quickly one after another. (Execute the following operation after the operation of pressing combined keys has been reflected.)
- Do not press the following key combinations while using the touch pad, external mouse or touchscreen.
- Do not press the function key (such as **F1** and **F2**) simultaneously while holding down the **Fn** key.



NOTE

- Do not press the following key combinations until you log-on to Windows and the hard disk drive indicator turns off.
Note, that pop-up windows will not be displayed in the **Setup Utility**, however, the key combinations the **Fn+F1** key, the **Fn+F2** key and the **Fn+F3** key are operable in the **Setup Utility**.
- The key combinations (→ [page 27](#)) may not work while some applications are running.
The pop-up 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").
- When using with the **Fn** and **Ctrl** functions interchanged (→ [page 113](#))
 - Press the **Ctrl** key instead of the **Fn** key for the desired Fn function.
 - It is not possible to replace the markings on the keys, or the keys themselves.

Key	Functions	Pop-up Window (Displayed after logging on to Windows)
<u>Fn+F1</u> <u>Fn+F2</u>	LCD brightness control (<u>Fn+F1</u>= down / <u>Fn+F2</u>= up) Pressing this key combination adjusts the LCD brightness control. You can select a different brightness level setting for when the AC adaptor is connected and for when it is not connected. (At the time of purchase, the LCD brightness is set to be darker when the AC adaptor is not connected.)	

Key	Functions	Pop-up 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 81)</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"> • 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"> ● Simultaneous display cannot be used until Windows startup is <u>complete</u> (during Setup Utility etc.). When the <u>Fn+F3</u> key is pressed, the screen is displayed on the external display or internal LCD. ● This key combination does not work when [Command Prompt] is set to "Full Screen." ● 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	Pop-up 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 (<u>Fn+F5</u>= down / <u>Fn+F6</u>= 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>Forcing the standby function Pressing this key combination causes the current status of the computer to be saved to memory, and puts the computer into standby mode. (→ page 47)</p>	—

Key	Functions	Pop-up Window (Displayed after logging on to Windows)
<u>Fn+F9</u>	Remaining capacity of the battery pack	 <p>When the battery pack is inserted in the computer (example)</p>  <p>When the battery pack is not inserted in the computer</p>
<u>Fn+F10</u>	Forcing the hibernation function Pressing this key combination causes the current status of the computer to be saved to the hard disk, and puts the computer into hibernation mode. (→ page 47)	—
<u>Fn+NumLk</u>	Run the ScrLk (Scroll Lock) function The functions differ depending on the application software being used.	—
<u>Fn+Home</u>	Lead to the last page or move the cursor to the end of the current line (End)	—

Hotkey Settings

There are two Fn key functions as follows:

- Fn key lock function
After the **Fn** key 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.
- Pop-up windows display ON/OFF

NOTE

- The Hotkey settings can be set separately for each user.
- When using with the **Fn** key and the **Ctrl** key functions interchanged (→ page 113), read with the **Fn** and **Ctrl** key reversed.

1 Run the Hotkey Settings.

Click [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 the **Fn** key only once:

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

- To use the **Fn** key successively:

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

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

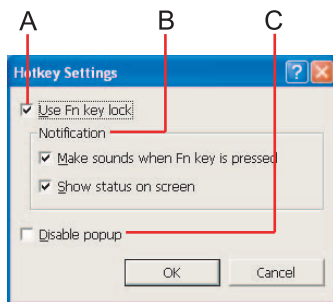
B. Notification

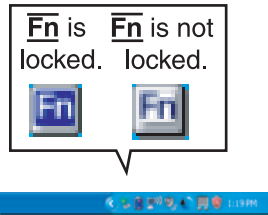
This setting is only available when [Use Fn key lock] is checked.

[Make sounds when Fn key is pressed]

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

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





[Show status on screen]:

Displays the Fn key status on the notification area.

C. Disable popup




Add the check mark if you want to turn the popup window display function OFF. "Full Screen" of [Command Prompt] or MPEG files may change to a window display if the **Fn+Fx**^{*1} key is pressed. To prevent this, turn the popup window display function OFF.

3 Click [OK].


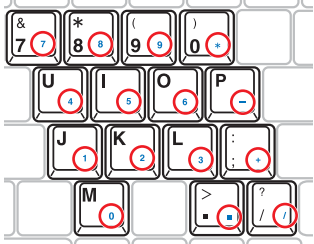
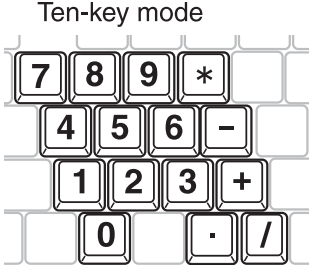



*1 The "**Fx**" key indicates any function key from the **F1** key to the **F10** key.

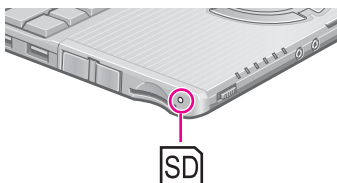
Confirm the Status Using the LEDs



Indicators	Indicators Name	Status
	Power indicator	<ul style="list-style-type: none">● Not lit Power off / Hibernation mode● Green Power on● Blinking green Standby mode
	Battery pack indicator	→ page 36
	Caps Lock indicator	This indicator lights green when the Caps Lock key is pressed. Subsequent non-shifted input is capitalized. To disable, press the Caps Lock key again (the indicator will turn off).

Confirm the Status Using the LEDs

Indicators	Indicators Name	Status
	NumLk indicator (Ten-key mode)	<p>This indicator lights green when the NumLk key is pressed.</p> <p>Part of the keyboard (see figure below) will function as a ten-key numeric input. When the green light is on, part of the keyboard can be used to input numbers or calculation functions.</p> <p>The Enter key functions differently depending on the application.</p> <p>To disable, press the NumLk key again (the indicator will turn off).</p>  
	ScrLk indicator (Scroll lock)	This indicator lights green when the Fn+ScrLk key is pressed. Scroll lock functions differently depending on the application.
	Hard disk drive indicator	This indicator lights when the hard disk drive is accessed.
	SD memory card indicator	This indicator lights when the SD memory card or MultiMedia Card is accessed.



Precautions about the Battery Pack

◆ Maintenance

- 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.
- Do not allow the battery pack to get wet.
- If the battery is damaged and battery fluid leaks out entering the eyes, immediately flush with large volumes of water and contact your doctor.

◆ Charging / Discharging (Operating Time)

- The battery pack is not charged when it is first purchased. Be sure to charge it before using it for the first time. Charging begins automatically when the AC adaptor is connected to the computer; charging time varies depending on usage conditions.
- 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.
- The battery pack normally becomes slightly warm during recharging and discharging. This is not a malfunction.
- Battery operation time is reduced at low temperatures. Use the battery pack within the acceptable temperature range.

◆ When the computer is not going to be used for an extended period (a month or more)

- In order to maintain the battery performance, remove the battery with a remaining charge of 30% to 40% from the computer, and store it in a cool, dark place.

◆ [Important Tips] (On-Line Manual)

- Important Tips provides information on how to maximize use of the battery pack, which is necessary for computing away from your home or office.



To see [Important Tips], double-click the  icon on the desktop, or click [Important Tips] in [start] - [All Programs] - [Panasonic] - [On-Line Manuals].

Use the Battery Indicator to Check the Battery Status

Battery Indicator	Battery Status
Not lit	Battery pack is not connected or no charging.
Orange ^{*1}	Charging in progress.
Green ^{*1}	Fully charged.
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, you can turn your computer on.</p>
Blinking red ^{*1}	<p>Battery pack or charging circuit may not be working properly. Quickly save your data and power off your computer.</p> <p>Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact your technical support office. The battery pack or charging circuit may be defective.</p>
Blinking orange ^{*1}	<p>Battery cannot be recharged temporarily because the internal temperature of the battery pack is outside 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.</p>

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

Check the Remaining Battery Power

There are three methods to check the remaining battery power.

- Press the **Fn+F9** key. (After logging on to Windows)(→ [page 38](#))
- Check the Windows Power Meter. (After logging on to Windows)(→ [page 38](#))
- Check the number of bright LEDs. (When the power is off or in standby/hibernation mode)(→ [page 39](#))

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 42](#))
 - 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.
- The remaining battery power and remaining time indicated in the Windows Power Meter ([Power Meter] in [Power Options Properties]) are calculated based on the computer's usage conditions at that time, so these displays may change when usage conditions change. (These displays are only a guide)
The remaining battery power displayed using the **Fn+F9** key is calculated differently, so displays may differ to some degree. This is not a malfunction.

Press the **Fn+F9** key to Check the Remaining Battery Power on the Screen
(After logging on to Windows)




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

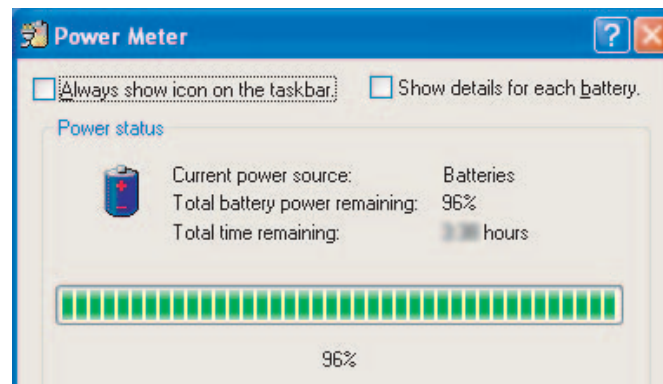
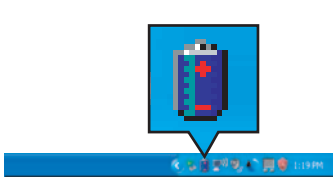


When the battery pack is not inserted in the computer

Check the Remaining Battery Power and Remaining Time using the Windows Power Meter (After logging on to Windows)

Display by double-clicking the  icon on the notification area when the AC adaptor is not connected.

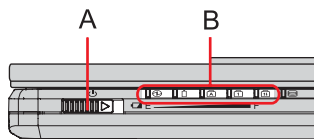
- The remaining battery power and remaining time indicated are calculated based on the computer's usage conditions at that time, so these displays may change when usage conditions change. (These displays are only a guide)



Check the Number of Bright LEDs (When the power is off or in standby/hibernation mode)

You can view the remaining battery capacity using the following procedure.

- ① Close the display and confirm that the latch is locked.
- ② Disconnect the AC adaptor.
- ③ Slide the power switch (A) and count the number of bright LEDs (B).



The number of bright LEDs (B)	Remaining Battery Capacity
0	0 % - 4 %
1	5 % - 24 %
2	25 % - 49 %
3	50 % - 74 %
4	75 % - 94 %
5	95 % - 100 %

When the Remaining Battery Charge Becomes Low

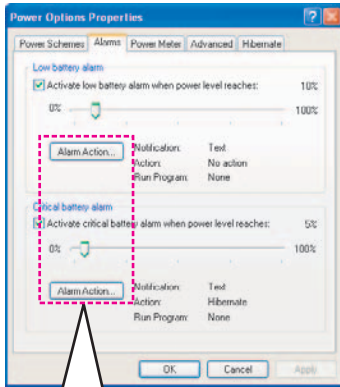
The following is factory default setting.

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. ● The computer will enter hibernation mode. <p style="text-align: center;">↓</p>
<p>Charge your battery.</p>	<p>Connect the AC adaptor or replace the battery 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. 	<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, and turn the computer on again. The computer will enter hibernation mode when the battery runs down. If computer operations are resumed without charging battery, Windows may not start up properly, and in some cases the alarm function may not operate properly from that point on.
<ul style="list-style-type: none"> ● Do not replace the battery pack while the computer is in standby mode. This will cause unsaved data to be lost. 	

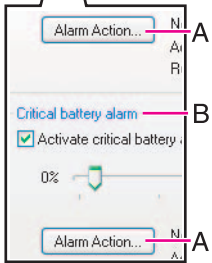
Above settings can be changed.

- ① Display [Alarms] screen.
Click [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 the **Fn+F4** key, the sound alarm is also disabled.

Battery Power



- A. 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].
- B. 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 (Battery Recalibration) 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 procedure described below should be performed again.

NOTE

- Perform the following procedure in a temperature range of 10°C to 30°C {50°F to 86°F}.
- 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.
- "Battery Recalibration" does not increase the battery's capacity. If "Battery Recalibration" is executed frequently, deterioration of the battery may result.

1

Attach the battery pack, then connect the AC adaptor.
Remove all peripherals (except for the battery pack and AC adaptor).

2

Use the "Battery Recalibration" to fully discharge the battery pack.

- ① Run the Setup Utility. (→ [page 109](#))
- ② Select [Battery Recalibration] from the [Exit] menu and press the **Enter** key.
- ③ At the confirmation message, select [Yes] and press the **Enter** key.
Once the battery indicator turns green, the battery pack will be completely discharged. It takes approximately 3 hours until the power automatically goes off through the complete discharge of the battery from the fully charged state.

- 3 Allow the battery pack to charge until the battery indicator turns green.

Charging Time: Approximately 3 hours.

Replacing the Battery Pack

The battery pack is a consumable item and therefore will require replacement. 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

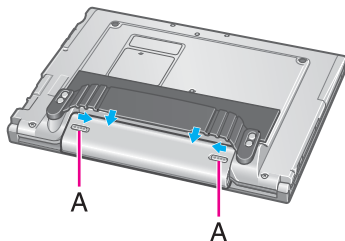
- Read the precautions about the battery pack carefully before using it (→ [page 35](#)).
- Use only the specified battery pack (CF-VZSU24BU) with your computer.
- Do not remove/change the battery pack while the standby mode: Removing the pack in the standby mode will erase your data and may damage the computer.

- 1 Power off your computer.

(⇒ *Operating Instructions* "Starting Up/Shutting Down")
Do not use the standby function.

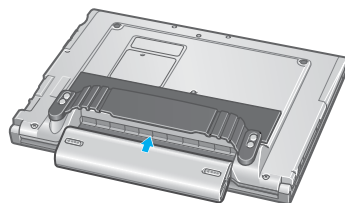
- 2 Turn your computer over and remove the battery pack.

Remove the battery pack while sliding the latches (A) inward.



- 3 Insert the battery pack.

Make sure the battery pack is facing the correct direction, then slide it in the direction of the arrow, and then check to ensure that the battery pack is held firmly by the latches on the left and right sides.



CAUTION

- Be sure the battery pack is properly connected to the connector.
 - When the battery pack has been removed, do not apply pressure from the top of the closed display. This may result in damage to the LCD.
-

One of the main features of notebook-type computers is that you have the power of computing away from your home or office. Following is information 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**

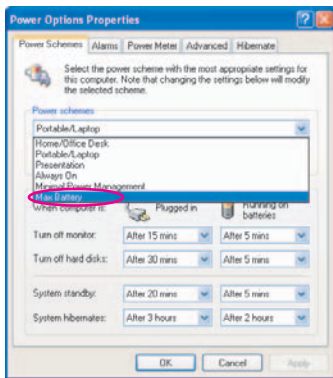
Check to see that you have your AC adaptor with you before leaving your home or office.

Purchasing a spare battery (CF-VZSU24BU) is highly recommended.

- **POINT 4**

Always watch your battery level!

Power-saving Methods



- ◆ **Change [Power Schemes]**

- Click [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 the Fn+F1 key (→ page 27)**

- ◆ **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
- ◆ Turn off the wireless LAN function when it is not in use (→ [page 103](#))
- ◆ When using this computer with the battery pack only
 - We recommend against using applications that place a significant load on the CPU
 - Some screensavers place a large burden on the CPU even when you are not operating the computer.
We recommend that you do not use a screensaver.
 - We recommend that you fully charge the battery pack beforehand.
 - Refer to [Important Tips] as well (→ [page 35](#)).

Before the Remaining Battery Power Level Gets to Low

We recommend that you become familiar with battery power confirmation methods (→ [page 37](#)) and alarm settings to become aware when battery power is low (→ [page 40](#)). Alarm settings can be changed.

NOTE

- When using the computer on the move, we recommend that you always carry the AC adaptor.
-

Starting Up Your Computer Quickly

If you use the standby or hibernation function, you can shut down the computer without closing programs and documents. When 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 resume	Need for 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 regularly 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 48](#)). (Enabled in factory preset)

- Press the **Fn+F7** key or the **Fn+F10** key to put your computer in the standby or hibernation mode (→ [page 29](#))
- Using the power switch (→ [page 50](#))
- Closing the display (→ [page 51](#))

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

Setting for Using the Hibernation Mode

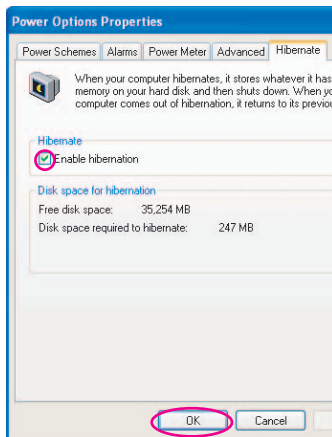
At the time of purchase, the computer is set so that hibernation mode can be used.

1

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



2

In [Hibernate], add the check mark for [Enable hibernation] and click [OK].



Precautions

◆ Before entering the standby or hibernation mode

- Save any unsaved data and save any files you may be editing.
- 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 (→ [page 59](#)).
- Do not enter either the standby or hibernation mode under the following conditions, as 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:
 - While the hard disk drive indicator  or SD memory card indicator  is on (accessing drive or card)
 - When playing/recording audio files and displaying images (such as MPEG files)
 - When using communications software or the network function (except when the Wake Up from LAN function is in use)
After resuming from hibernation mode or standby mode, the computer may not work properly, or may not be able to connect to the network.
 - When using peripheral devices
If these devices fail to work properly, restart the computer.

◆ 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:
 - Touching the keyboard, touch pad, touchscreen or power switch
 - Using external mouse or other peripheral devices
 - Connecting or disconnecting the AC adaptor
 - Closing or opening the display
- It may take one or two minutes to enter standby or hibernation mode.

◆ In standby or hibernation mode

- Do not insert or remove peripherals; abnormal operation may result.

- In standby mode, power is consumed. If PC Cards are inserted, more 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.

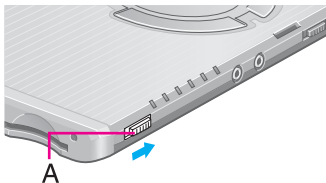
Using the Power Switch

◆ Setting

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

◆ Entering the standby or hibernation mode

- 1 Slide the power switch (A); release your finger at the beep^{*1} sound. 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 it until the power indicator goes off or blinks.
- At the beep^{*1} 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^{*1} 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^{*1} will sound and the power will be turned off forcibly. Data not previously saved will be lost.

^{*1} When the speaker function is disabled, e.g., by the key combination the **Fn+F4** key, there will be no beep sound.

When Closing the Display

At the time of purchase, the computer is set to go into standby mode.

◆ Setting



1

Click [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced].



2

Click [Stand by] or [Hibernate] for [When I close the lid of my portable computer], and then click [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.

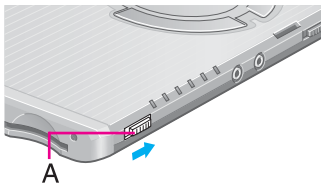
- When entering the standby or hibernation mode, close the display correctly. If you do not (for example, if you open the display soon after you close it), the computer may not enter standby or hibernation mode.

Resuming Operation (Recovery from standby or hibernation mode)

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 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 the computer has gone into standby or hibernation mode, resume operations using the following procedure.

- 1 Slide the power switch (A).

When Opening the Display

When [Stand by] or [Hibernate] is selected as the setting for [When I close the lid of my portable computer] (→ [page 51](#)), 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, slide the power switch.

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

Situation	Function to use
<ul style="list-style-type: none">You do not want the settings in the Setup Utility to be changed	<ul style="list-style-type: none">Supervisor Password (→ page 54)User Password (→ page 56)^{*1}
<ul style="list-style-type: none">You do not want your computer to be used without your permission	<ul style="list-style-type: none">Password on boot (→ page 57)^{*1}
<ul style="list-style-type: none">You do not want your computer to be used without your permissionYou do not want the computer to resume operation from standby or hibernation mode	<ul style="list-style-type: none">Windows Log-on Password (→ page 59)
<ul style="list-style-type: none">You do not want data stored on the hard disk to be read or data to be written to the hard disk and/or you want to prevent loss of data due to theft of the hard disk	<ul style="list-style-type: none">Hard Disk Lock (→ page 61)^{*1}
<ul style="list-style-type: none">You want to prevent theft of your computer	<ul style="list-style-type: none">Security lock (⇒ <i>Operating Instructions</i> "Names and Functions of Parts")

^{*1} For this function to work correctly a "Supervisor Password" must be set.

NOTE

- Windows has a security function that differs from the above security measures. For detailed information, refer to the Windows help.
- For security functions for the wireless LAN: → [page 107](#)

CAUTION

- Do not forget your password!**
 - If the Supervisor Password is forgotten: Contact your technical support office.
 - If the User Password is forgotten: Ask a person who knows the Supervisor Password.
 - If the Windows log-on password is forgotten: Computer administrator's password:

If you have created a password reset disk (⇒ *Operating Instructions* "First-time Operation"), a message will be displayed when the wrong password is entered. Reset the password according to the message.

If you have not created a password reset disk, after reinstallation set up Windows and reset the password.

Limited user's password:

Ask your system administrator

- 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.

◆ About entering a password

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

◆ Using an SD memory card instead of entering a password

If you initialize a commercial SD memory card (SD Card Setup), you can start up the computer or log-on to Windows by setting the specified SD memory card.

Setting the Supervisor Password (enabling, changing, disabling)

If only a Supervisor Password has been set, other users cannot change the settings in the Setup Utility. If you want to prevent others from starting up the computer, after setting the password set [Password on boot] to [Enable].

1 Run the Setup Utility. (→ page 109)

2 Using either the **→** key or the **←** key, select [Security].

3 Using either the ↑ key or the ↓ key, select [Set Supervisor Password] and press the Enter key.

4 Only when the Supervisor Password has been set:
Enter your password at [Enter Current Password] and press the Enter key.

5 Enter your password at [Enter New Password] and press the Enter key.

- To disable the Supervisor Password
Press only the Enter key.

6 Re-enter your password at [Confirm New Password] and press the Enter key.

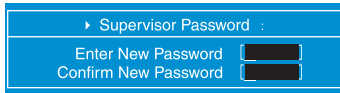
- To disable the Supervisor Password
Press only the Enter key.

7 At [Setup Notice], press the Enter key.

8 Press the F10 key and select [Yes], then press the Enter key.

NOTE

- Disabling the Supervisor Password also disables the User Password.



Screen when Supervisor Password has not been set

Setting the User Password (enabling, changing, disabling)

User Password is set when several people will be using this computer. For example, the system administrator sets the Supervisor Password and the User Password, and only advises the other users of the User Password. In this way, other users can be restricted from changing the Setup Utility.

NOTE

- When the Supervisor Password has not been set, the User Password cannot be set. Set the Supervisor Password if you have not done so (→ [page 54](#)).
- To disable the User Password, start up the Setup Utility with the Supervisor Password.

1 Run the Setup Utility. (→ [page 109](#))

2 Using either the **→** key or the **←** key, select [Security].

3 Using either the **↑** key or the **↓** key, select [Set User Password] and press the **Enter** key.

4 Only when the User Password has been set:
Enter your password at [Enter Current Password] and press the **Enter** key.

5 Enter your password at [Enter New Password] and press the **Enter** key.

- To disable the User Password
Press only the **Enter** key.



Screen when User Password has not been set

- 6 Re-enter your password at [Confirm New Password] and press the **Enter** key.
- To disable the User Password
Press only the **Enter** key.

- 7 At [Setup Notice], press the **Enter** key.
- When you do not want the User Password enabled or changed without permission:
Set [User Password Protection] using the following procedure:
 - ① Using the **↑** key and the **↓** key, select [User Password Protection] and press the **Enter** key.
 - ② Using either the **↑** key or the **↓** key, select [Protected] and press the **Enter** key.

- 8 Press the **F10** key and select [Yes], then press the **Enter** key.

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 knowing 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 54](#)).
- When starting up the Setup Utility, the password input screen will be displayed if a Supervisor Password or User Password has been set, even if [Password on boot] is set to [Disable].

Setting the Password on boot (enabling, disabling)

- 1 Run the Setup Utility. (→ [page 109](#))
- 2 Using either the → key or the ← key, select [Security].
- 3 Using either the ↑ key or the ↓ key, select [Password on boot] and press the Enter key.
- 4 Select [Enable] or [Disable].
 - To enable the Password on boot:
Using the ↑ key or the ↓ key, select [Enable] and press the Enter key.
 - To disable the Password on boot
Using the ↑ key and the ↓ key, select [Disable] and press the Enter key.
- 5 Press the F10 key and select [Yes], then press the Enter key.

Starting Up When the Password on boot is Set



The screen shown at left is displayed.

Enter your password^{*1} and press the Enter key.

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

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

Set the Windows Log-on Password

If the Windows log-on password is set, a password input screen will be displayed when you log-on to Windows.

To set the password, it is necessary to first create a log-on user.

To set a password after the log-on user has been created, execute step **2**, and then execute steps **6-8**. (Step **1** and steps **3-5** are not required.)

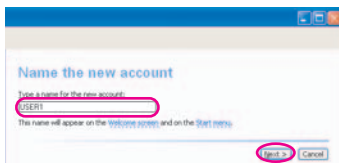
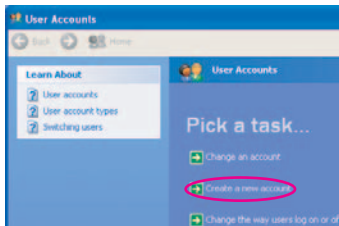
1 Log-on to Windows with the administrator authority.

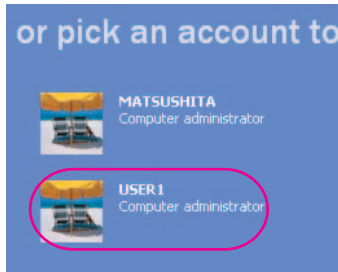
2 Click [start] - [Control Panel] - [User Accounts].

3 Click [Create a new account].

4 Input the account name, and then click [Next].

5 Select an account type, and then click [Create Account].

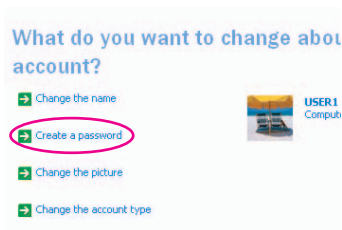




6

Click on the account for which the password will be set.

- If you are logging on to Windows as a limited user, the screen of step 7 will be displayed. Refer to step 7.



7

Click [Create a password].

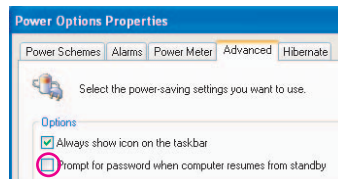


8

Input the password, and then click [Create Password].

NOTE

- If the check mark has been removed from [Prompt for password when computer resumes from standby] in [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced], [Enter Password] does not appear when resuming from standby mode.



When you do not want the data stored 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 54](#)).
- The hard disk lock function only works with the internal hard disk. This function does not work with the external hard disk.

Setting the Hard Disk Lock (enabling, disabling)

- 1 Run the Setup Utility. (→ [page 109](#))
- 2 Using either the → key or the ← key, select [Security].
- 3 Using either the ↑ key or the ↓ key, select [Hard Disk Lock] and press the Enter key.

4

Select [Enable] or [Disable].

- To enable the Hard Disk Lock:
Select [Enable] and press the Enter key. At [Caution], press the Enter key.
- To disable the Hard Disk Lock:
Select [Disable] and press the Enter key.

5

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

CAUTION

- If your computer requires repair:
 - Be sure to set [Hard Disk Lock] to [Disable].

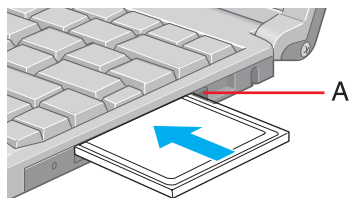
This slot conforms to the PC Card Standard; therefore, communications and SCSI devices may be utilized. There are three types of card, differentiated by their thickness: Type I (3.3 mm), Type II (5.0 mm), and Type III (10.5 mm). The slot allows you to use one Type I or Type II card.

CAUTION

- Check the PC Cards' specifications. To avoid damage, be sure the total operating current does not exceed the specified limit.
Allowable Current: 3.3 V: 400 mA, 5 V: 400 mA
 - ZV card, SRAM card, FLASH ROM card (except for an ATA interface) and cards 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.
 - 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.
-

Inserting/Removing the PC Card

Inserting a PC Card

**1**

Simply slide the PC Card right-side-up until it snaps into place. Refer to each card's operating instructions for proper insertion. After the card is inserted, bend the eject button (A).

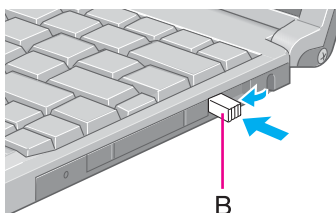
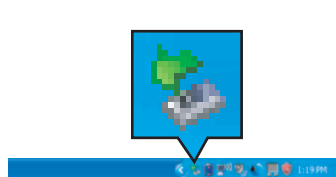
CAUTION

- When using a PC Card to connect a peripheral device (SCSI, IEEE 1394, etc.), install following the procedures below. Here is one example.
 - 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. Doing so may damage the slot, making it impossible to remove the card.
- When carrying the computer, remove PC Cards protruding from the computer.

Removing a PC Card


CAUTION

- Do not remove a PC Card while your computer is in the standby or hibernation mode.
- Note that the PC Card removal may not be complete, depending on the status of the PC Card or the device connected to the PC Card; this may occur when a SCSI card is used to connect an external hard disk to the computer. In such cases, turn off the power from the [start] menu, then remove the card.



1

Disable the card function.

- ① Double-click the  icon on the notification area, click the PC Card, then click [Stop].
- ② Click [OK] on [Stop a Hardware device] screen.
(When the PC Card has been removed after the computer is turned off, this step is not necessary.)

2

Raise the bent part of the eject button (B).

3

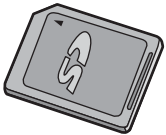
Press the button (B).

4

Slide the PC Card out.

Both the SD memory card and the MultiMedia card can be used in this computer.

SD Memory Card



◆ The SD memory card may be used in the following ways:

- Storing files, etc.
- Exchanging data with devices equipped with an SD memory card slot.
- Writing music data (checkout) to the card and listening to the music.
 - The SD memory card has a copyright protection function which is compatible with content on-demand services on the Internet, etc.
- Use instead of entering a password. (→ [page 71](#))
You can insert an SD memory card instead of entering a password to start your computer or log-on to Windows.

◆ Formats for SD memory cards

- Although your SD memory card has been formatted prior to purchase, when you re-format, use SD memory card format software. (Do not use [Format] of Windows.)
Formatting software can be downloaded from our web site.
Address: http://panasonic.jp/support/audio/sd/download/sd_formatter_e.html
- When using the SD memory card with other peripheral devices, format the SD memory card using the peripheral device. For details, refer to the device's instruction manual.

◆ Data transfer rate

- The transfer rate using the SD memory card slot on this computer is 2MB*¹ per second
The transfer rate is 2MB*¹ per second, even if you use an SD memory card that supports high-speed transfer rates.

*¹ This is a theoretical value, and differs from actual speeds.

◆ Important handling and storage information


- Always store the SD memory card in its case after removing it from a computer.
- Do not:
 - Take the SD memory card apart or try to modify it
 - Hit, bend, or drop the card; or allow it to get wet

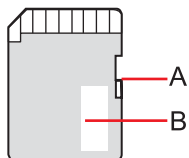
- Touch the metal terminals with your hands or with metal
- Remove the labels on the card / Attach other labels or seals to the card
- Do not leave the card in the following locations:
 - Locations that can become very hot, like inside a car in direct sunlight
 - Dusty locations or locations that are very humid
 - Locations subject to corrosive gas, etc.

◆ When logging on to Windows/ resuming from standby or hibernation mode

- Do not remove or insert the SD memory card until Windows has completed loading.
- After resuming from standby or hibernation mode, do not access the SD memory card for about 30 seconds.

◆ Protecting important data

- Set the write-protect switch (A) to the LOCK position. Unlock the switch when you want to record (checkout), edit, or save data.
- Use an oil-base felt-tip pen to write in the memo area (B) on the card. Do not use a pencil or ball-point pen. Doing so can damage the card body or destroy data stored in the card.
- Do not remove the card or turn off the device: Removing the card can destroy data stored in the card.
 - While data is being read from the card
 - While data is being written to the card, or for a short time after the writing operation
 - While the SD memory card indicator  is lit(Note that Panasonic assumes absolutely no liability for any loss of data recorded by the user, or any other damages, direct or indirect.)
- We recommend backing up important data to another storage medium.
- When disposing of cards, we recommend that you physically destroy the card (for example, by using a hammer) to prevent personal or confidential data from being leaked.



MultiMedia Card (MMC)

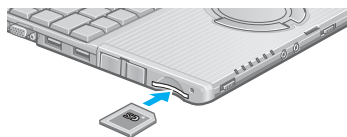
The MultiMedia card can be used for:

- Storing files, etc.
- Exchanging data with devices equipped with a MultiMedia card slot

This computer may be unable to use MultiMedia cards under some conditions; for example, if the MultiMedia card has been formatted using certain peripheral devices.

Inserting/Removing the SD Memory Card/MultiMedia Card

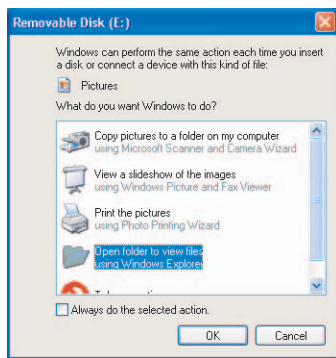
Inserting the Card



1

Insert the card firmly with the label side facing up and with the cut corner in front.

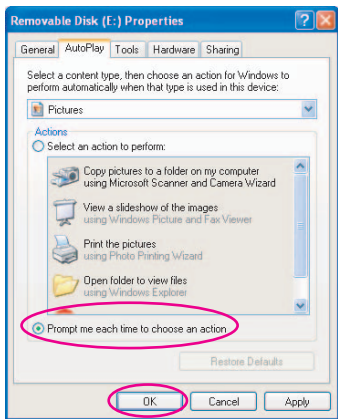
- Make sure you insert the card in the proper direction. Improper insertion may result in damage to the card or slot.



2

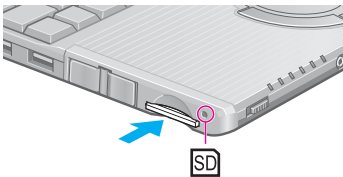
Click on the desired Windows operation.

- The screen on the left is an example.
- When the screen on the left is not displayed, it can be activated by doing the following:
 - ① Click [start] - [My Computer].
 - ② Right-click [Removable Disk] on SD memory card /MultiMedia Card, and then click [Properties].
 - ③ Click [AutoPlay].




- ④ Select the “Content” type, then click [Prompt me each time to choose an action], and then click [OK].

Removing the Card



1

Confirm the SD memory card indicator  turns off completely.

- Do not remove the card while data is being read from or written to the card.
- The computer may continue to access the card for some length of time after operations such as writing to the card. If you try to remove the card before the operation is completed, important data may be damaged, or it may not be possible to properly access the card the next time it is inserted.

2

When you press the card, it will stick out of the slot. Now pull it all the way out.

- If you try to force the card out of the slot while it is locked in place, the card or slot may be damaged.

Changing the SD Memory Card Drive Letter

To change the SD memory card/MultiMedia card drive letter, use the SD Drive Letter Change Tool with the following procedure.

Even if no SD memory card/MultiMedia card has been connected, a drive letter will still be displayed as "Removable Disk" in Explorer and other programs.

NOTE

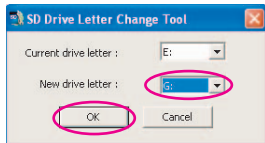
- Log-on to Windows with the administrator authority.
- The drive letter for A: Drive, B: Drive, C: Drive, and Z: Drive cannot be changed.

◆ How to install the SD Drive Letter Name Change Tool

- ① Click [start] - [Run].
- ② Input [c:\util\chgsddrv\setup.exe] and click [OK], then follow the onscreen instructions.

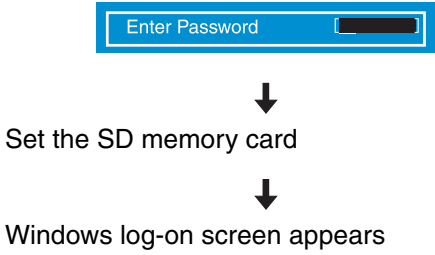
◆ How to change drive letter

- ① Click [start] - [All Programs] - [Panasonic] - [SD Drive Letter Change Tool].
- ② Click in [New drive letter], click the drive letter, and click [OK].



SD Memory Card Security Function

When you initialize an SD memory card, you can insert it, instead of entering a password, in the following cases.

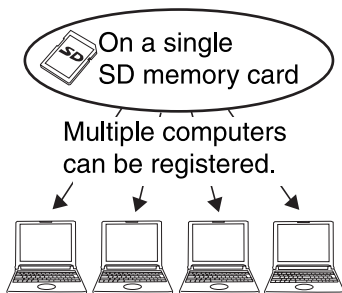
● When starting the computer	● When logging on to Windows/ resuming from the standby or hibernation mode, or while the screensaver is active
 <p>Enter Password</p> <p>↓</p> <p>Set the SD memory card</p> <p>↓</p> <p>Windows log-on screen appears</p>	<p>Windows log-on screen</p> <p>↓</p> <p>Set the SD memory card</p> <p>↓</p> <p>Windows desktop appears</p>

NOTE

- Without using the SD memory card, you can also start your computer or log-on to Windows by entering the correct password.
- This security function can only be used with SD memory cards. The security function cannot be used with MultiMedia cards.

Before Initialization (SD Card Setup)

- **To use when starting the computer:**
Set the Supervisor Password in the Setup Utility (→ [page 54](#)). You can also set it during the initialization procedure.
- **To use when logging on to Windows/resuming from the standby or hibernation mode, or while the screensaver is active:**
The Windows log-on user and password must be set in [Control Panel] in advance. (→ [page 59](#))



When logging on to Windows, use the same logon user and password as that set for the SD memory card.

NOTE

- Use the formatted SD memory card (→ [page 66](#)).
- This security function only works in the SD memory card slot. It does not work in devices such as an SD card reader connected through a USB connection.
- An SD memory card with the settings can be used as an ordinary memory card in other devices as well.
- You can set the security function on a single SD memory card for multiple computers. Note, however, that if the card is used when logging on to Windows, all of the computers must use the same log-on user and password as those on the SD memory card.

Initialization (SD Card Setup)

1

Log-on to Windows with the administrator authority.

2

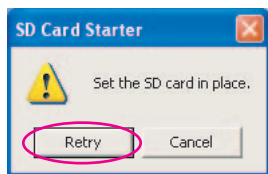
Insert the SD memory card in the SD memory card slot.
When [Removable disk] appears, click [Take no action], then click [OK].

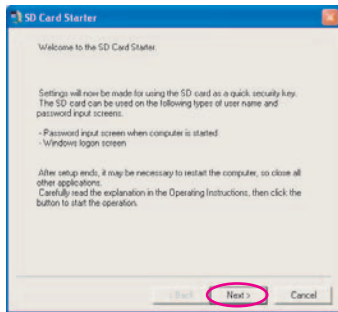
3

Start the SD card setup program.

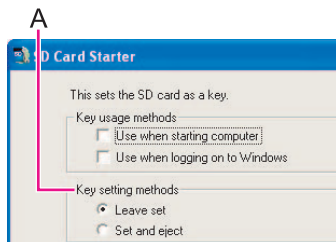
Click [start] - [All Programs] - [Panasonic] - [SD Card Setup].

- If an SD memory card has not been inserted, the screen on the left will be displayed. Insert an SD memory card and click [Retry].





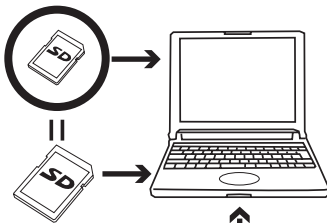
4 Click [Next] in the Welcome screen.



5 Choose the key (SD memory card) setting method (A).

- [Leave set]
To leave the SD memory card in place instead of entering a password (The card may be removed after the computer or Windows is started.)
- [Set and eject]
To set and eject the SD memory card instead of entering a password
The setting method is set separately for each computer. Different SD memory cards may not use different setting methods on the same computer.

On a single computer, multiple SD memory cards can be set using the same method.

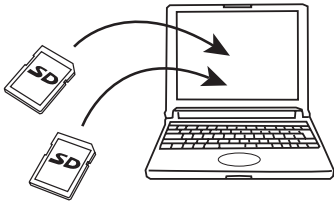


Different methods cannot be set for each SD memory card.



If you use a different method between starting the computer and logging on to Windows:

In this screen, you can set the setting method for logging on to Windows. To set the method when starting the computer, run the Setup Utility and change the setting of [SD Setting Method] in the [Security] menu after completing the SD Card Setup. (→ page 116)



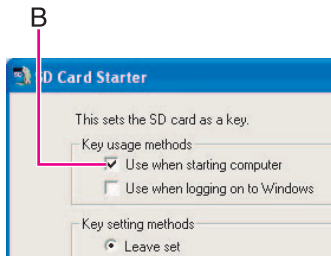
6

Make the settings according to their intended.

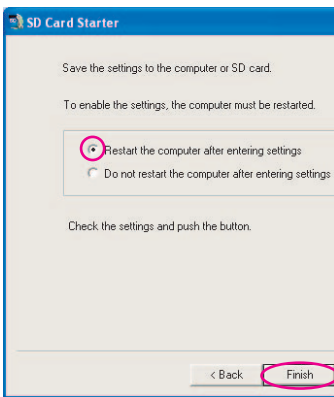
- **To use when starting the computer**

An SD memory card will be registered with the computer (Up to two cards can be registered).

① Add the check mark for [Use when starting computer] (B) and click [Next].

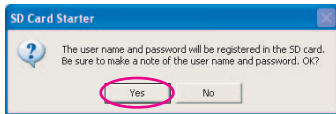


② Click [Restart the computer after entering settings], then click [Finish].



③ Enter the Supervisor Password.

- If the Supervisor Password has been set
Enter the Supervisor Password, then click [OK].
- If the Supervisor Password has not been set
Follow the onscreen instructions to set the Supervisor Password.
Enter the Supervisor Password, then press the Tab key.
↓
Reenter the Supervisor Password for confirmation, then click [OK].
↓
Click [Yes] on the confirmation screen.
Supervisor Password and [Password on boot] in the [Security] menu of the Setup Utility will be set to be enabled (→ [page 116](#)).



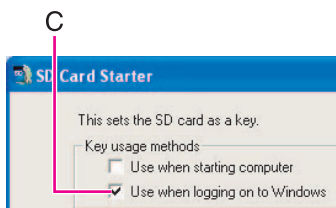
● **To use when logging on to Windows**

The Windows log-on user name and password set in [Control Panel] are registered in the SD memory card.

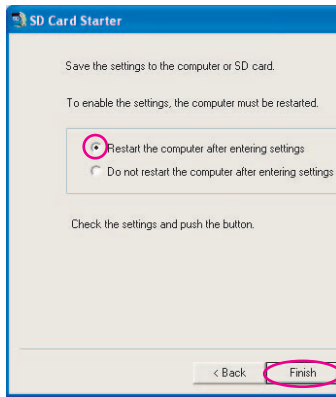
After making this setting, the following functions will be disabled.

- Displaying the Welcome screen
- The Fast User Switching function
- Remote desktop connection

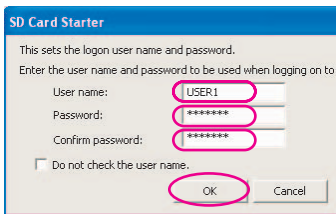
① Add the check mark for [Use when logging on to Windows] (C) and click [Next].



SD Memory Card Security Function



- ② Click [Restart the computer after entering settings], then click [Finish].



- ③ Set the Windows log-on user name and password.
Enter the user name, then press the **Tab** key.



Enter the password, then press the **Tab** key.



Reenter the password for confirmation.

- [Do not check the user name]

When you add the check mark for [Do not check the user name], register on the SD memory card without checking whether or not the input user name has been set on this computer.

For example, if different user names have been set on multiple computers, as in the case of a company, it requires a lot of work to register the user name on each individual SD memory card for each computer.

If the check mark is on, user names for other computers can be registered on the SD memory card.

- When user names for other computers have been registered:

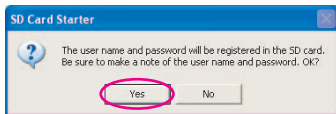
When restarting the computer after completing the settings, enter the Windows user name and password to log-on to Windows without using the SD memory card.



Click [OK].



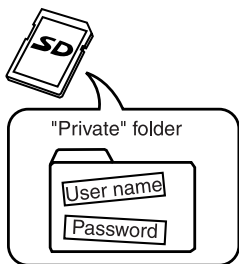
Click [Yes] on the confirmation screen.




A [Private] folder will be created in the SD memory card, and a Windows log-on user name and password will be registered.

Do not delete [Private] folder. Doing so will cancel [Use when logging on to Windows].

- **To use both when starting the computer and when logging on to Windows**
Add the check mark to both [Use when starting computer] and [Use when logging on to Windows], and input Supervisor Password, user name, and other information according to the instructions on the screen (→ [page 74](#)).



If the Function fails to Operate Correctly

- The computer does not respond properly when you insert the SD memory card. Remove the card and wait a few seconds, then reinsert it. Or, enter password through the keyboard
- The SD memory card indicator  is blinking. Enter the password through the keyboard without removing the SD memory card. A software application, etc. may be accessing the SD memory card.
- The password input screen and the Windows log-on screen do not appear.
If [Leave set] was selected as the setting method:
 - If an SD memory card is already inserted when starting the computer, each screen does not appear when the computer is started.
 - If an SD memory card is already inserted when resuming from the standby or hibernation mode, or while the screensaver is active, reinsert it.

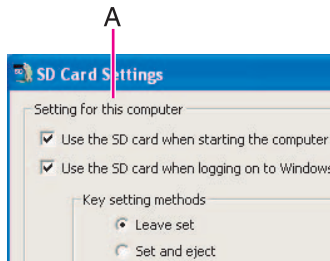
When logging on to Windows / When resuming from the standby or hibernation mode, or the screensaver

- If [Set and eject] was selected as the setting method:
Insert the SD memory card, then eject it after you hear a beep indicating card recognition. (When the speaker function is disabled, e.g., by the key combination the **Fn+F4** key, there will be no beep sound.)

Change the Settings

After you run the SD Card Setup program once, the setup screen that appears the next time you run it will be different.

- 1 Start the SD card setup program. (→ [page 72](#), steps [1-3](#))
The current settings will be displayed.



- 2 Change the settings.

A. Setting for this computer

You can change the settings registered in this computer.

- [Use the SD card when starting the computer]
This setting can also be changed on the [Security] menu of the Setup Utility. (→ [page 116](#))

- If you add the check mark:

An SD memory card can be used when starting the computer.

- If you remove the check mark:

All SD memory cards currently registered on this computer will be unusable when starting this computer. Remove the check mark if there is a possibility of unauthorized card being used by another person (e.g., if you lose an SD memory card).

To use the SD memory card again, add the check mark for [Use when starting the computer] under [Setting for this SD card]. It will be registered with the computer again.

- [Use the SD card when logging on to Windows]

- If you add the check mark:

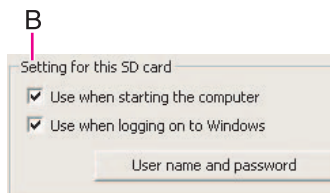
The SD memory card can be used when logging on to Windows.

- If you remove the check mark:

You will not be able to log-on to Windows by inserting an SD memory card with a set password.

B. Setting for this SD card

You can initialize (SD Card Setup) the SD memory card currently inserted, or change its settings via the “SD Card Setup”. If no SD memory cards are inserted, none of the fields under [Setting for this SD card] can be selected.



- [Use when starting the computer]
 - If you add the check mark:
This SD memory card can be used when starting the computer.
A check mark is also added automatically in [Use the SD card when starting the computer].
 - If you remove the check mark:
All SD memory cards currently registered on this computer will be unusable when starting this computer.
- [Use when logging on to Windows]
 - If you add the check mark:
This SD memory card can be used when logging on to Windows.
 - If you remove the check mark:
The user name and password will be erased from the SD memory card and the card will no longer be usable when logging on to Windows.
- [User name and password]
 - You can change the Windows log-on user name and password which are set in the SD memory card.
 - When the set user name appears, enter the password and click [OK]. Then enter the new user name and password.
 - [User name and password] can not be selected if the check mark is not added to [Use when logging on to Windows].

3

Click [OK].

Operation differs, depending on the setting.

- If you add the check mark for [Use the SD card when starting the computer]:
Step ③ of [To use when starting the computer] in step 6 (→ page 74).
- If you remove the check mark for [Use the SD card when starting the computer]:
 - ① Enter the password and click [OK].
 - ② At the confirmation message [The SD card information registered in the Setup Utility will be erased...], click [Yes].
- If you add the check mark for [Use when logging on to Windows]:
Step ③ of [To use when logging on to Windows] in step 6 (→ page 75).
- If you remove the check mark from [Use when logging on to Windows]:
 - ① Enter the password and click [OK].

- ② At the confirmation message [The user name and password registered in the SD card will be erased...], click [Yes].
-

4 Restart the computer.

You can connect an external display to use a large screen, or connect an LCD projector to give a presentation.

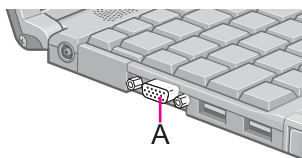
For explanations of display mode terminology, refer to “Read Me First” (→ [page 4](#)).

1 Power off your computer.

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

- Do not use the standby or hibernation function.

2 Connect the external display to the external display port (A) on your computer.

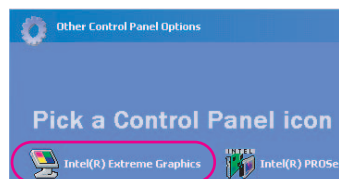
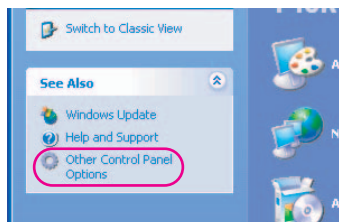


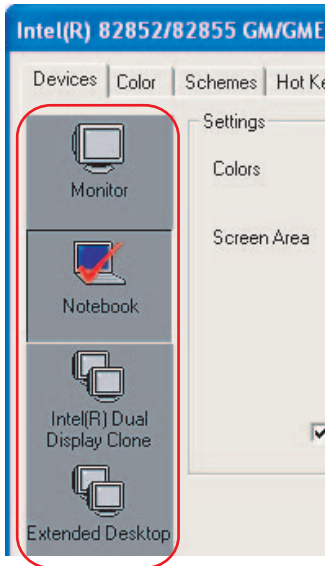
3 Turn on the external display, then turn on your computer.

4 Change the display destination.

There are two methods to change the display destination. Do not change the display destination using any method other than the following ones.

- Press the **Fn+F3** key. (→ [page 28](#))
 - Extended Desktop switching cannot be used.
 - Do not press any keys or slide the power switch until the display destination has changed completely.
 - Use [Intel(R) 82852/82855 GM/GME Graphics Controller] screen.
- ① Click [start] - [Control Panel], and from the [See Also] area click [Other Control Panel Options].
- ② Click [Intel(R) Extreme Graphics] - [Devices].





- ③ Click the display destination, and then click [Apply].
- When the screen is displayed to an external display: [Monitor]
 - When the screen is displayed to the internal LCD: [Notebook]
 - When the screen is displayed to a simultaneous display: [Intel(R) Dual Display Clone]
 - When Extended Desktop mode is set: [Extended Desktop] (→ [page 84](#))

5

Set the number of colors, resolution, etc.

If simultaneous display or Extended Desktop is selected, click [Device Settings] to make the settings.


NOTE

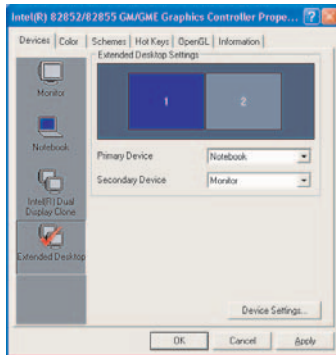
- The display destination after resuming from hibernation mode or after restarting may differ from the display destination before entering hibernation mode or before restarting.
- Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.). When the **Fn+F3** key is pressed, the screen is displayed on the external display or internal LCD.
- Simultaneous display and display destination switching cannot be used while [Command Prompt] 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 differ when the internal LCD is used alone or with an external display simultaneously. However, in the case of some external displays, the screen display may be distorted or the mouse cursor may not be properly displayed depending on the settings. In this case, try setting the number of colors, screen area (resolution), and refresh rate to smaller values.

- The following actions may result in distortion of the display. If this occurs, restart the computer.
 - When an external display with a high resolution or high refresh rate setting is disconnected.
 - When an external display is connected or disconnected while the computer is operating.
 - When the computer is set to display on both the internal LCD and the external display, MPEG files and other video files may not be played back smoothly.
 - 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 use in the following menu, or use the driver disk that was supplied with your monitor.
 - ① Display [Display Properties].
Click [start] - [Control Panel] - [Appearance and Themes] - [Display].
 - ② Click [Settings] - [Advanced] - [Monitor] - [Properties] - [Driver] - [Update Driver].
 - If a picture is not displayed properly:
 - ① Display [Display Properties]. (Refer to step ① above.)
 - ② Click [Settings] - [Advanced] - [Troubleshoot], and lower the level of [Hardware acceleration].
-

Extended Desktop

Click [Extended Desktop] (→ page 82, step ③), and make the settings for [Primary Device] and [Secondary Device].

Click , select the display from the menu, and then click [OK].



- The pop-up window displayed by the **Fn** key combination is shown only on the primary device.
- Do not switch the display destination by pressing the **Fn+F3** key when [Extended Desktop] is being used.
- Do not change this setting using other screens. The window may not be displayed properly.

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.

Precautions

- ◆ When the application running is not shown on the display, refer to the following items.
 - When the application is in the external display or after the application is closed in the external display, there are times 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 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 when the Extended Desktop is disabled:

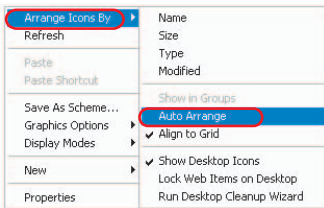
The application running is being displayed in the external display. Set the Extended Desktop again, move the application from the external display to the internal LCD and then disable the Extended Desktop.

◆ To prevent images from being burned onto the external display

- Manually shut off the power to the external display when not in use.

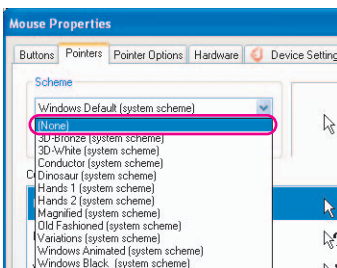
◆ When the display domain for the Extended Desktop is changed, the wallpaper and icons may become displaced.

- Wallpaper: Change the setting for the wallpaper.
- Icons: Right-click on the desktop, and click [Arrange Icons By] - [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].
Click [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse].
 - ② Click [Pointers].
 - ③ Click [None] in [Scheme], then click [OK].

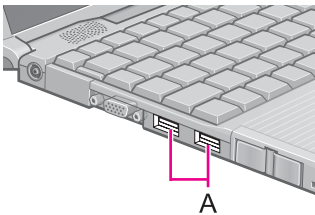


USB Devices (External Mouse etc.)

You can use various USB peripherals, such as a floppy disk drive, external mouse, printer, or image scanner.

Connecting/Removing USB Devices

Connecting USB Devices



1

Connect the USB device to the USB port (A) on your computer, referring to the operating instructions of the USB device.

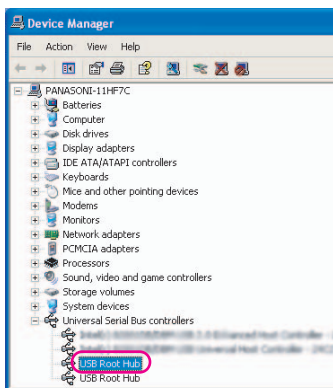
You may need to install drivers compatible with the operating system you are using for your USB devices. Follow the onscreen instructions and refer to the operating instructions for USB devices to install the driver.


NOTE

- USB devices may be connected or removed without turning off the computer's power.
- When a USB device is connected, there are instances when the standby or hibernation function will not operate normally due to the USB device. In addition, a USB device may have to be removed temporarily and the computer restarted when 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 being connected, the computer may not recognize when the USB device is connected or disconnected. In such cases, the device may not operate properly. Use the following procedures to verify connection status.

① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].

② Double-click [Universal Serial Bus controllers], and double-click [USB Root Hub].



- ③ Click [Power Management] and remove the check mark from [Allow the computer to turn off this device to save power], then click [OK].
- 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 connecting 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.
 - After connecting the USB device to one port and installing the driver, it may be necessary to reinstall the driver when the device is connected to the other port.
-

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 Double-click the  icon on the notification area and click the USB device, then click [Stop].
 - ② Click [OK] on the [Stop a Hardware device] screen.
(This step is not necessary when the USB device has been removed after the computer is turned off, if the  icon is not displayed, or if the USB device that is going to be disconnected is not displayed in step ①.)
-

2

Remove the USB device.

When Using an External Mouse

When external mouse drivers are installed, uninstall the Touch Pad driver first with the following procedure.

NOTE

- Before uninstalling the driver, save important data and close each application.

- 1** Click [start] - [Control Panel] - [Add or Remove Programs] - [TouchPadUtility], and then click [Change/Remove] to remove the program.
 - Remove the program by following the on screen instructions.
 - If the message [Locked File Detected] is displayed, click [Reboot].
- 2** [InstallShield Wizard Complete] is displayed, click [Yes, I want to restart my computer now] - [Finish].
- 3** Click [start] - [Control Panel] - [Add or Remove Programs] - [Synaptics Pointing Device Driver], and then click [Change/Remove] to remove the driver.
- 4** After following the message on screen to remove the driver, click [start] - [Turn Off Computer] - [Turn Off] to turn off the computer.
- 5** Turn on the computer and start Windows.
- 6** Install the mouse driver according to the mouse's operating instructions.

NOTE

- After the settings described in the previous page have been made, the Touch Pad Scroll function can not be used. If you do not use an external mouse and use the Touch Pad Scroll function again, follow the procedure for [When using the Touch Pad Utility] below.

◆ When using the Touch Pad Utility

- 1 Click [start] - [Control Panel] - [Add or Remove Programs] to remove the external mouse driver.
 - The procedure may depend on the external mouse driver you are using. For more information, refer to the instructions manual provided with the mouse driver.
- 2 After the driver is removed, shut down Windows and turn off the computer.
 - If an external mouse is connected, disconnect it after turning off the computer.
- 3 Turn on the computer and start Windows.
- 4 Click [start] - [Run] and input [c:\util\drivers\mouse\setup.exe] and then click [OK].
- 5 At [Welcome], click [Next].
- 6 At [Important information], click [Next].

7 At [Start Copying Files], click [Next].
The driver installation is executed.

8 At [Setup complete], confirm that [Yes, I want to restart my computer now] is selected and click [Finish].

9 After restarting the computer, at [Synaptics Pointing Device Settings], remove the check mark from [Show this screen at startup] and click [Close].

10 Click [start] - [Run] and input [c:\util\touchpad\setup.exe], and then click [OK].

11 At [Touch Pad utility Setup], click [Next].

- Installing Touch Pad Utility starts.
- After completing the installation, if the message [Touch Pad function and original Flat Pad scroll function cannot be used simultaneously] is displayed, click [Yes].

12 Click [Finish] to close the screen.

USB Floppy Disk Drive

Note the following when using an optional USB floppy disk drive (CF-VFDU03).

- Avoid the followings while the floppy disk drive is being accessed. Doing any of these may damage the data on the floppy disk and render it useless.
 - Power off your computer
 - Remove the floppy disk drive
 - Touch the floppy disk drive eject button
- Use care when handling floppy disks.

To protect the data on your floppy disks or to prevent a floppy disk from becoming stuck in your computer, avoid the following:

 - Manually sliding the shutter on the floppy disk
 - Exposing the disk to a magnetic field
 - Storing the disk in locations prone to high temperatures, low pitched noise, dampness, or dust
 - Applying more than one label on the disk
- Confirm the contents of a floppy disk before formatting it.

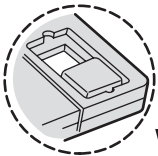
Confirm that no important data is left on the floppy disk, because all data will be erased.
- Use the write-protect tab (A).

This is a must for preserving important data. This prevents your data from being erased or overwritten.
- The USB floppy disk drive cannot be used at the same time as other floppy disk drives.
- Do not directly open application files (e.g., Microsoft Word, Microsoft Excel) which are stored on the floppy disk.

First copy the files to the hard disk, then open the copied files from the hard disk.



Write Enable



Write Disable

When the printer is connected to the USB port, the Reference Manual in this computer and homepages found on the Internet can be printed.

- Refer to the printer's operating instructions for help installing the printer driver, making the settings and operating the printer.
- How to print this Reference Manual in this computer: (→ [page 7](#))

1

Power off the printer and your computer.

(About powering off your computer: ⇒ *Operating Instructions* "Starting Up/Shutting Down")

- Do not use the standby or hibernation function.

2

Connect the USB cable (attached to the printer or commercially available) to the printer, and then connect the other cable to the USB port of this computer.

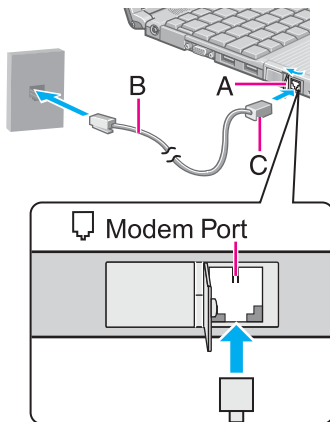
3

Turn on the printer, then turn on your computer.

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
 - ISDN
- 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

Open cover (A), and line up the tab (C) for the modem telephone cable (included: B) with the port (C), and insert the tab.

2

Change the settings as necessary.

- ① Click [Edit] in [start] - [Control Panel] - [Printers and Other Hardware] - [Phone and Modem Options] - [Dialing Rules], then click 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.), click [OK], then click [OK].

NOTE

- Do not enter either the standby or hibernation mode during communications. 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:
Click [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes].

- To remove the cable, pull out while pressing down on the tab.

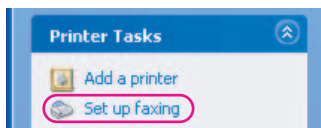
Ring Resume Function

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.

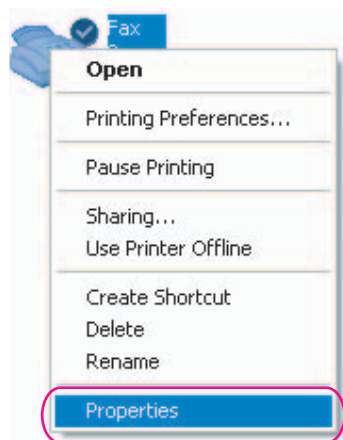
This function is convenient when using automatic information-receiving applications such as a FAX.

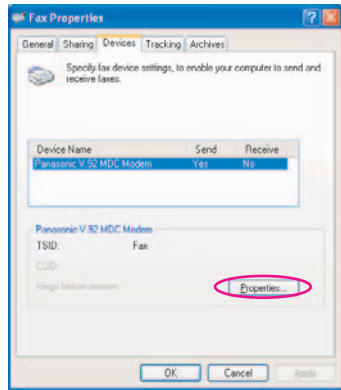
When using this function, it is necessary to run a software application that can receive telephone calls and then return the computer to the original condition after a call.

Enabling the Ring Resume Function

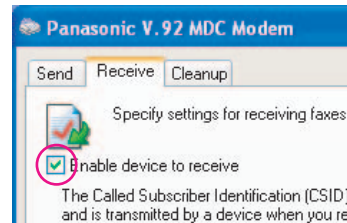


- ① Click [start] - [Printers and Faxes].
- ② Click [Set up faxing] in the [Printer Tasks] area on the left.
 - After [Configuring Components] screen is displayed, the fax icon will be displayed.
 - This operation is not necessary next time.
- ③ Right-click on the fax icon and then click [Properties].





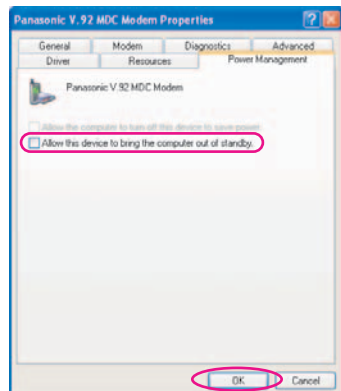
- ④ Click [Devices] - [Properties].



- ⑤ Click [Receive], and then add the check mark for [Enable device to receive] and click [OK].

- ⑥ Click [Device Manager] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware].

- ⑦ Double-click [Modems], and then double-click the internal modem.



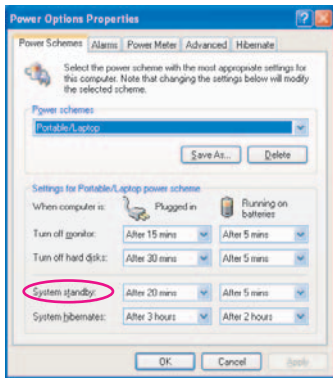
- ⑧ Click [Power Management], add the check mark for [Allow this device to bring the computer out of standby], then click [OK].

When making the settings in steps ①-⑤ above, the battery operation time will be shortened to some degree.

When not using the Ring Resume function, we recommend removing the check mark from [Enable device to receive] in the settings in step ⑤.

CAUTION

- When using this function, it is recommended that the AC adaptor be connected to the computer.



- 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 will remain on, even while the user is absent.
- When the Ring Resume function is in use, 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 to maintain the condition to receive telephone calls) to a small value.

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

NOTE

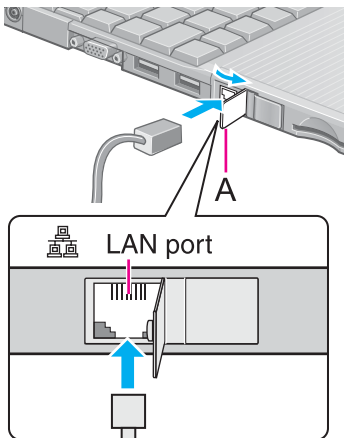
- This function does not work when the computer is off or is in hibernation mode.
- After operations are resumed from standby mode, the screen remains dark. The former screen display will be restored when the keyboard, touch pad or touchscreen is touched.
- The computer cannot resume if a telephone is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

There are specific settings required to set up LAN connection. Be sure to check system administrator before attempting to your LAN.
When connecting multiple computers or peripheral devices in a home or office via a network, printers or files can be shared among several computers.

Connecting LAN

CAUTION

- Do not connect the modem telephone cable into the LAN port.
- To ensure proper network operations, use a twisted pair cable (category 5 or higher) less than 100 m in length.
- In some cases, LAN cables with a cover attached to the connector cannot be connected. Check this in advance.



1 Power off your computer.
(⇒ *Operating Instructions* "Starting Up/Shutting Down")
Do not use 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.

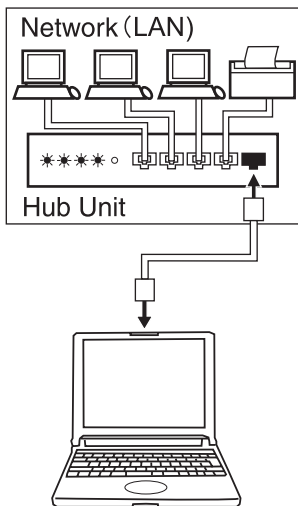
4 Set protocols, etc.
Check with your system administrator for these settings.
Make the settings according to instructions from your provider or your system administrator instructions, and click [OK].

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

NOTE

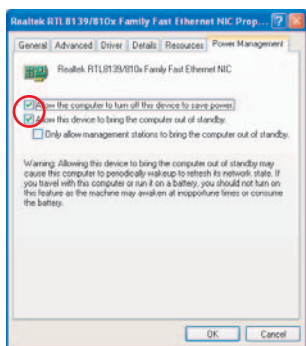
- If you are unable to connect to the network (when the indicator of your HUB unit does not light):
 - ① Display the [Device Manager] screen.
Click [Device Manager] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware].
 - ② Double-click [Network adapters] and then double-click the network adaptor you are using.
 - ③ Click [Advanced].
 - ④ Click on [Property] - [Link Speed/Duplex Mode], and set the communication speed that is appropriate for your network environment in [Value].
 - ⑤ Click [OK], and then click  on [Device Manager] screen to close.




Wake up from LAN Function

This is a function of the internal LAN to automatically power the computer 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 Click [Device Manager] in [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware].
- 2 Double-click [Network adapters], and double-click the internal network adaptor.
- 3 Click [Power Management], add a 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], click [OK], and then click  on [Device Manager] screen to close.

CAUTION

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

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 is touched.

- 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 Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Double-click [Network adapters], double-click the internal network adaptor, and then click [Power Management].
 - ③ Add a check mark for [Only allow management stations to bring the computer out of standby], click [OK], and then click  on [Device Manager] screen to close.
-

If you use a wireless LAN, you can access 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 IEEE802.11a/IEEE802.11b/IEEE802.11g.
 - IEEE802.11a: A high-speed wireless LAN standard using a 5-GHz frequency band.
 - IEEE802.11b: A wireless LAN standard using the 2.4-GHz frequency band.
 - IEEE802.11g: A wireless LAN standard for an extended type of IEEE802.11b with high compatibility and stability.



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 perform.

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 IEEE802.11g and IEEE802.11b, communication speed when using IEEE802.11g 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 103](#)).





- ◆ 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 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]).
- After turning the wireless LAN on or off, it may take some time before the [Intel PROSet/Wireless] screen display is renewed.

1 Double-click the  icon / the  icon / the  icon (when the wireless LAN is on) or the  icon (when the wireless LAN is off) on the notification area or click [start] - [All Programs] - [Intel PROSet Wireless] - [Intel PROSet Wireless].

2 Click ▼ and click [Wireless On] or [Wireless Off]

Enable/Disable 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")

1 Click the  icon (when the wireless LAN is on) or the  icon (when the wireless LAN is off) on the notification area.



2

To disable 802.11a:

- Click [Disable 802.11a].

To enable 802.11a:

- Click [Enable 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.



Note that when 802.11a is enabled/disabled by using the Wireless LAN Switch after settings have been changed using “Device Manager”^{*1}, communications using the following standards will be conducted.







Settings in Device Manager	Settings in Wireless LAN Switch	
	When 802.11a is enabled	When 802.11a is disabled
[802.11a, 802.11b and 802.11g] or [802.11b and 802.11g]	a+b+g is enabled	b+g is enabled
[802.11g only] or [802.11a and 802.11g]	a+g is enabled	g is enabled
[802.11a only] or [802.11b only]	a is enabled	b is enabled

^{*1} In addition to using the Wireless LAN Switch, you can also change the setting of the wireless LAN standard by the following procedure:

- ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
- ② Double-click [Intel(R) PRO/Wireless....] at [Network adapters].
- ③ Click [Advanced], and then click [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 Click [OK].

NOTE

- Function of Wireless LAN Switch
 - Turning the wireless LAN on/off by clicking the Wireless LAN Switch ( or ) on the notification area and clicking [Enable Wireless LAN] or [Disable Wireless LAN].
 - Enabling/disabling 802.11a (→ [page 103](#))

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 an Intel® PROSet/Wireless Software, the  icon or the  icon on the notification area will change at the same time.
- When you uninstall the Wireless LAN Switch:
 - Confirm that [Wireless LAN] is set to [Enable] in the Setup Utility.
- When the wireless LAN has been disabled using [Device Manager] or the Setup Utility, the  icon or the  icon will not be displayed.
- Even if 802.11a is set to enable, 802.11a cannot be used when the wireless LAN is set to 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 the  icon / the  icon / the  icon on the notification area to display [Intel PROSet/Wireless] screen.

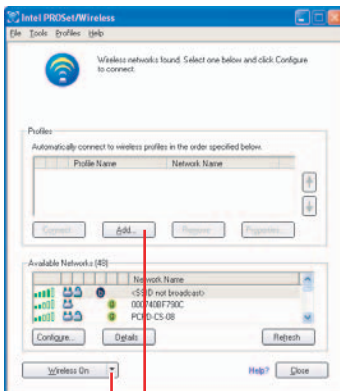
- Even if the wireless LAN is on, 802.11a may be set to “disable.” To enable

802.11a: Click the  icon or the  icon on the notification area, and then click [Enable 802.11a]. (when [Disable 802.11a] is displayed, 802.11a is enabled.)

When the  icon is displayed and [No supported wireless adapters available in the system] is displayed in [Intel PROSet/Wireless] screen:
[Wireless LAN] in the [Advanced] menu of the Setup Utility may be set to [Disable]. Set to [Enable] using the following procedure.

- ① Restart the computer.
- ② Press the **F2** key while [Panasonic] boot screen is displayed soon after the computer begins the startup procedure.
If a password is set, [Enter Password] will be displayed. Enter your password, and press the **Enter** key.
- ③ Select [Wireless LAN] in the [Advanced] menu and press the **Enter** key, then select [Enable] from the menu displayed and press the **Enter** key.
- ④ Press the **F10** key.

At the confirmation message, select [Yes] and press the **Enter** key.
The computer will restart.
Start again from step 1.



A B

2

Click (A) and click [Wireless On].
If [Wireless On] is displayed, skip this step.

3

Click [Add] (B) in [Profiles].

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

5 Make necessary changes and click [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 click [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 click [Connect].

NOTE

- If the  icon is displayed, the computer is connecting to an access point. Wait for a moment.

If the  icon is displayed for a longer time, perform the following procedure.

- ① Display [Intel PROSet/Wireless] screen. (→ [page 106](#))
- ② Select again a profile name you want to connect, and click [Connect].

7 Click [Close].




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.

Check the Wireless LAN Communication Status

Open the Intel[®] PROSet/Wireless Software using either of the following procedures:

- Double-click the  icon, the  icon or the  icon on the notification area to check the communication status.
- Click [start] - [All Programs] - [Intel PROSet Wireless] - [Intel PROSet Wireless].

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

- Click the  icon or the  icon on the notification area to check whether IEEE802.11a is enabled or disabled.
When [Disable 802.11a] is displayed: 802.11a is enabled. (802.11a is on).
When [Enable 802.11a] is displayed: 802.11a is disabled. (802.11a is off).
If the setting has been changed at [Device Manager], the wireless LAN standard will be changed.

Setup Utility

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

Running the Setup Utility

1

Turn on or restart the computer.

2

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

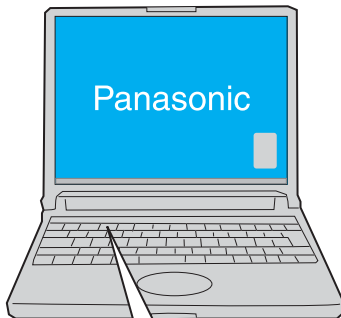
When the password is set, the screen shown at left will be displayed. Enter your password, and press the **Enter** key.

When inputting the Supervisor Password

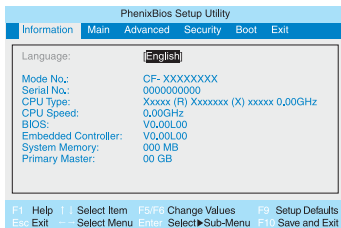
- You can register all items of the Setup Utility.

When inputting the User Password

- On the [Advanced] and the [Boot] menu:
 - You can view the settings, but cannot change it.
- On the [Security] menu:
 - [Clear registered SD card], [Set Supervisor Password] and [Hard Disk Lock] will not be displayed.
 - [Password on boot], [SD Startup], [SD Setting Method], [Setup Utility Prompt], [Boot First Menu] and [User Password Protection] 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.
- On the [Exit] menu:
 - [Get Default Values] option will not be displayed.
- The **F9** key does not work.



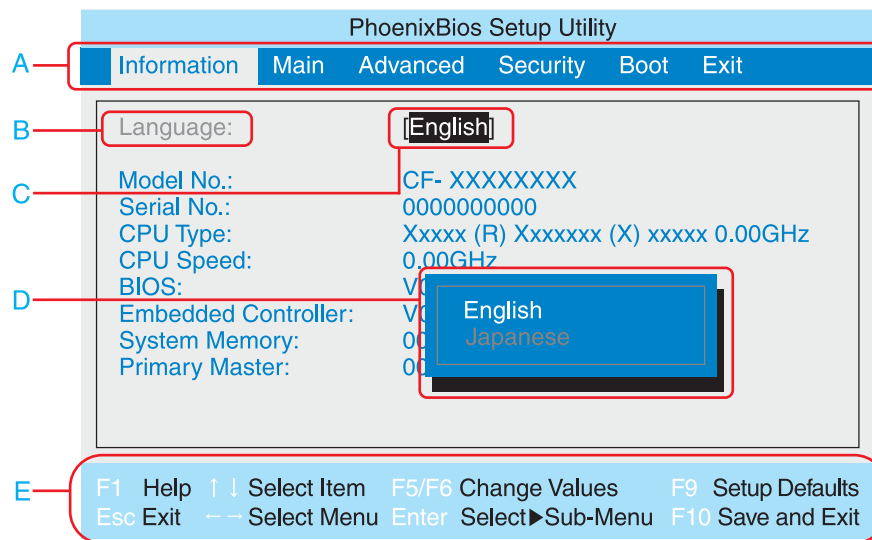
(When the Password is set)



NOTE

- Cannot display the Setup Utility screen in simultaneous display.
By pressing the **Fn+F3** key, display destinations can be changed either external display or the internal LCD.
 - When [Password on boot] in the Setup Utility is set to [Disable]:
 - When the computer is started up, entering a password is not necessary.
 - When the Setup Utility is started up:
The password becomes necessary. This alternative can prevent the contents of the Setup Utility from being changed.
 - If you fail to press the **F2** key at the right moment, the Setup Utility will not start up. In this case, let the computer fully boot up, and then perform a shutdown or restart from Windows.
 - To close the Setup Utility:
 - ① Press the **Esc** key.
 - ② Select the exiting method from the **[Exit]** menu and press the **Enter** key.
 - ③ Select [Yes] and then press the **Enter** key.
-

How to use the screen



- A. You can select menu items by moving the cursor with the \leftarrow key and the \rightarrow key.
- B. If there are several selectable items, you can choose the desired item by pressing the \uparrow key and the \downarrow key. The color of the selected item will change.
- C. You can display the submenu by pressing the **Enter** key on the item shown in reverse display.
- D. When the submenu is displayed, you can select items by pressing the \uparrow key and the \downarrow key.
- E. The keys that can be used for settings are displayed in the Setup Utility screen.

Key Operations

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

Information Menu

(An underline indicates the factory default settings)

Language <ul style="list-style-type: none"> Select the language for displaying the Setup Utility. 	<u>English</u> Japanese
Model No. Serial No. CPU Type CPU Speed BIOS Embedded Controller System Memory Primary Master	To display and confirm information. These items cannot be selected or changed.

Main Menu

(An underline indicates the factory default settings)

System Time <ul style="list-style-type: none"> Time is shown in 24-hr. style. The <u>Tab</u> key can be used to move hour/minute/second. Numerical values can be adjusted using the <u>F5</u> key and the <u>F6</u> key. 	[xx:xx:xx]
System Date <ul style="list-style-type: none"> Date is shown in order of Month/Day/Year. The <u>Tab</u> key can be used to move Month/Day/Year. Numerical values can be adjusted using the <u>F5</u> key and the <u>F6</u> key. 	[xx/xx/xxxx]
Touch Pad <ul style="list-style-type: none"> Select whether to use the touch pad ([Enable]) or not ([Disable]). 	Disable <u>Enable</u>
Fn/Ctrl Key <ul style="list-style-type: none"> Select whether to switch the <u>Fn</u> key with the <u>Ctrl</u> key functions, and vice versa on the internal keyboard. Do not attempt to replace the markings on the keys, or the keys themselves. 	<u>Normal</u> Replace

(An underline indicates the factory default settings)

Display <ul style="list-style-type: none"> 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] 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] - [Devices] 	<u>External Monitor</u> Internal LCD
Display Expansion <ul style="list-style-type: none"> Select whether to have the display expanded when not using the native screen resolution. 	Disable <u>Enable</u>

Advanced Menu

NOTE

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

(An underline indicates the factory default settings)

Modem <ul style="list-style-type: none"> Select whether to use the internal modem function ([Enable]) or not ([Disable]). (This does not work for the external modem.) 	Disable <u>Enable</u>
LAN <ul style="list-style-type: none"> Select whether to use the internal LAN function ([Enable]) or not ([Disable]). (This does not work for the external LAN card.) 	Disable <u>Enable</u>
Boot up from LAN <ul style="list-style-type: none"> Select whether to use the function starting the computer from a LAN server ([Enable]) or not ([Disable]). This can be set only when [LAN] is set to [Enable]. (This function works only for the internal LAN. This does not work for an internal wireless LAN and external LAN card.) 	Disable <u>Enable</u>
Wireless LAN <ul style="list-style-type: none"> Select whether to use the internal wireless LAN function ([Enable]) or not ([Disable]). (This does not work for the external wireless LAN card.) 	Disable <u>Enable</u>

(An underline indicates the factory default settings)

Legacy USB Support

- Select whether to use the function that makes the computer recognize USB keyboard, USB CD/DVD drive and USB floppy disk ([Enable]) or not ([Disable]) before starting Windows.

Disable

Enable

Security Menu

NOTE

- When the Setup Utility is started up with the User Password:
 - [Clear registered SD card], [Set Supervisor Password] and [Hard Disk Lock] will not be displayed.
 - [Password on boot], [SD Startup], [SD Setting Method], [Setup Utility Prompt], [Boot First Menu] and [User Password Protection] 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.
 - [SD Startup], [SD Setting Method] and [Clear registered SD card] will be displayed only when an SD memory Card has been registered. (→ [page 72](#))

(An underline indicates the factory default settings)

Password on boot <ul style="list-style-type: none"> • Select whether you will need to input ([Enable]) or not ([Disable]) the Supervisor Password or the User Password on booting. 	Disable <u>Enable</u>
SD Startup <ul style="list-style-type: none"> • Select whether to use an SD memory card instead of entering the password on booting ([Enable]) or not ([Disable]). • When registered SD memory card, this is set to [Enable]. • Cannot be set when [Password on boot] is set to [Disable]. 	<u>Disable</u> Enable
SD Setting Method <ul style="list-style-type: none"> • Select whether to set an SD memory card to [Leave Set] or [Set and Eject] when an SD memory card is used instead of entering the password. • This can be set only if [SD Startup] has been set to [Enable]. • Cannot be set when [Password on boot] is set to [Disable]. 	<u>Leave Set</u> Set and Eject
Clear registered SD card <ul style="list-style-type: none"> • Clear the registration from all registered SD memory cards not to be used instead of entering the password on booting. 	To the sub-menu

(An underline indicates the factory default settings)

Set Supervisor Password <ul style="list-style-type: none"> Set a Supervisor Password if you wish to prevent any unauthorized changes to the Setup Utility settings, also if you require a password on boot, set [Password on boot] to [Enable] after you set Supervisor Password. 	To the sub-menu
Setup Utility Prompt <ul style="list-style-type: none"> Select whether to display ([Enable]) or not to display ([Disable]) the message “Press F2 for Setup/F12 for LAN” shown on the bottom of the [Panasonic] boot screen that is displayed after starting this computer. 	Disable <u>Enable</u>
Boot First Menu <ul style="list-style-type: none"> Select whether to display “Boot Menu” ([Enable]) or not ([Disable]). (→ page 118) 	Disable <u>Enable</u>
Hard Disk Lock <ul style="list-style-type: none"> Select whether enable ([Enable]) or disable ([Disable]) the hard disk lock. This function will not work without the Supervisor Password being set. 	Disable <u>Enable</u>
User Password Protection <ul style="list-style-type: none"> Select whether to permit changing the User Password ([Protected]) or not ([No Protection]). 	<u>No Protection</u> Protected
Set User Password <ul style="list-style-type: none"> Set User Password when multiple users use this computer, etc. For example, when the system administrator sets Supervisor Password and User Password and lets other users know only the User Password, other users cannot change some of the settings in Setup Utility. This function will not work without the Supervisor Password being set. 	To the sub-menu

Boot Menu

Set priorities (displayed in order from top to bottom) for devices that start up the operating system.

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

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

- Panasonic USB floppy disk drive (CF-VFDU03 (optional)) and Panasonic CD/DVD drive (CF-VDRRT1M, CF-VDRRT2W or CF-VDRRT3W (optional)) can be used for startup (recommended).

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

^{*1} A "+" will not be displayed if a floppy disk drive is not connected.

^{*2} When you select an item with a "+" display and press the **Enter** key, the name of the connected device (including internal devices) will be displayed. (Press the **Enter** key once more to return the display to its original condition.)

Press the **Ctrl** + **Enter** key to display the names of both the floppy disk drive and the hard disk drive.

^{*3} This is not displayed when [LAN] or [Boot up from LAN] is set to [Disable] on the [Advanced] menu.

NOTE

- The [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 the **Esc** key is pressed at [Panasonic] boot screen, [Boot Menu] (the device selection screen) will appear. When the [Boot] menu setting is changed, the selection screen display will also change. [Boot Menu] is displayed only when [Boot First Menu] in the [Security] menu is set to [Enable].

Exit Menu

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 <ul style="list-style-type: none">This item is not displayed when starting up the Setup Utility with the User Password.	Set the Setup Utility to the default settings.
Load Previous Values	Load previous values from CMOS for all Setup items.
Save Current Values	Save your changes to CMOS.
Battery Recalibration	To accurately display remaining battery capacity, fully charge the battery pack, then fully discharge it. (→ page 42)
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> .

How to magnify the computer screen display

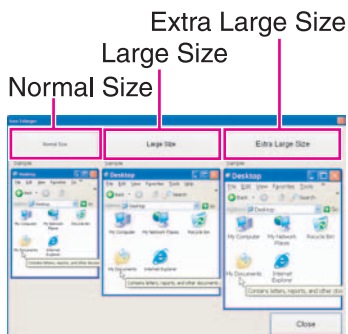
If the characters, icons, title bars, mouse cursor, or other items are too small and difficult to see on the screen, use the "Icon Enlarger," and change the screen display by switching among [Normal Size], [Large Size], and [Extra Large Size].

- Characters on Internet screens^{*1} displayed on Internet Explorer^{*1}, 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.

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."



1 Click [start] - [All Programs] - [Panasonic] - [Icon Enlarger].

2 Click the display size as [Normal Size], [Large Size], or [Extra Large Size].

3 Click [OK].

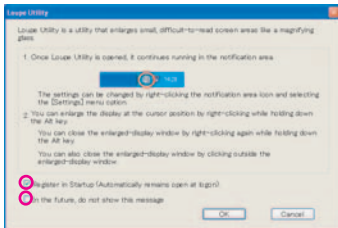
The screen will be displayed in the selected size, however wait for a moment until the message [Setting have changed] is displayed.

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

Click [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

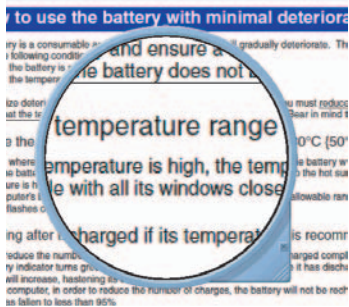
Click [OK].

- The  icon will be displayed on the notification area.





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 the **Alt** key.

- The area indicated by the cursor will be enlarged.
- You can also show the enlarged display by double-clicking on the  icon on the notification area, or right-clicking on the  icon and clicking [Show Loupe]. (→ [page 123](#))

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 click , the enlarged-display window will be hidden.

- Clicking outside the enlarged-display window or right-clicking while pressing the **Alt** key 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.

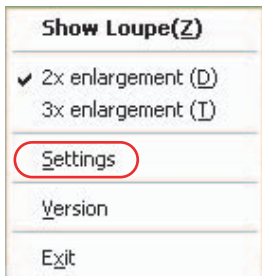
NOTE

- Loupe Utility displays the screen at the moment of the display enlargement (e.g., the moment when the right button is clicked while pressing the **Alt** key). 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, click the enlarged-display window (A).
- There are some applications that may not be enlarged properly.

Set Loupe Utility



1 Right-click the  icon on the notification area.

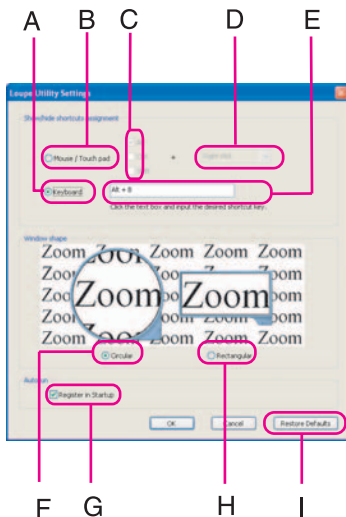


2 Click [Settings].

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 Click [Mouse/Touch pad](B).
 - ② Click a combination of the **Alt** key, the **Ctrl** key, and the **Shift** key, and add the check mark. (Multiple keys can be combined; for example, the **Alt + Ctrl** key) (C).
 - ③ Select either [Right click] or [Left Click] to use in combination with the key(s) selected in ② above. (D)

- When using the keyboard
 - ① Click [Keyboard](A).
 - ② Click the text box (E), and then press the key used for the shortcut. (e.g., the **Alt + Z** key, the **Alt + Ctrl + Z** key, etc.)



Changing the window shape

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

Start up Loupe Utility when Windows is started

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

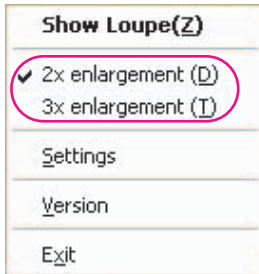
Return Loupe Utility to the default (factory shipment) setting

Click [Restore Defaults](I).

3 Click [OK].

◆ Select whether to make the display enlargement 2x or 3x

- Right-click the  icon, and then click [2x enlargement] or [3x enlargement].



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



The computer does not power on/The battery indicator is not lit

- Check that the AC adaptor or a fully-charged battery pack is correctly connected.
- Reconnect the AC adaptor or battery pack.

The computer does not start up

- If there is a peripheral connected, remove the peripheral.
 - If there are USB devices connected, set [Legacy USB Support] to [Disable] in the [Advanced] menu of the Setup Utility. (→ [page 114](#))
 - If the computer starts when the peripheral is removed, there may be a problem with the peripheral. Consult the peripheral manufacturer.
- Using the following procedure, start up in Safe Mode, and check the error details.
 - ① Turn on the computer, and when the [Panasonic] boot screen disappears (after entering the password^{*1} if one is set) hold down the **F8** key.
 - ② Release the key when the Windows Advanced Options Menu appears, and with the **↑** key or the **↓** key, select [Safe Mode], then press the **Enter** key. Follow the onscreen instructions.

^{*1} Supervisor Password or User Password set with the Setup Utility

- When the power indicator is lit, after sliding the power switch for at least four seconds to turn off, turn on again.
- Restore the Setup Utility's settings to their default values.

There is a beep sound, and either "Extended RAM Module Failed" or "Standard RAM Failed" appears

- If "Extended RAM Module Failed" appears, the RAM module is not correctly installed. Turn off the computer, check that the RAM module is a recommended module, then insert it correctly.
- If "Standard RAM Failed" appears, contact your technical support office.

Cannot log-on to Windows with the SD memory card

- Since the Windows user name and password are not set correctly on the SD memory card, logon from the SD memory card is not possible.

Enter the Windows user name and password without using the SD memory card. After logging on to Windows, set the same user name and the password on the SD memory card and Windows, using one of the following operations:

- Change the setting of the SD memory card side by [SD Card Setup]
- Change the setting of the Windows side by [Control Panel]

For how to make the change, refer to "SD Memory Card Security Function" (→ [page 71](#)) and "Set the Windows Log-on Password" (→ [page 59](#)).

To log on with an Administrator user account

- If you create a user account after Windows setup, the Administrator account used during Windows setup does not appear on the logon screen.

To logon with the Administrator account, in the logon screen, press the **Ctrl + Alt + Del** key twice, enter "Administrator" in [User name], and enter the password if one is set, then click [OK].

Cannot boot from a floppy disk

- Check if there is a Panasonic external floppy disk drive connected (CF-VFDU03). It is not possible to boot from other floppy disk drives.
- Check that the boot disk is correctly inserted.
- Make sure [Legacy USB Support] is set to [Enable] in the Setup Utility (→ [page 115](#)).
- Turn off the computer, and reconnect the external floppy disk drive.

“Remove disks or other media. Press any key to restart” is displayed

- Check whether a floppy disk not allowing system booting is inserted in the floppy disk drive. If it is inserted, remove, then press any key.
- If a USB device is connected, remove the USB device, or set [Legacy USB Support] to [Disable] in the [Advanced] menu of the Setup Utility. (→ [page 115](#))
- If after all the checks, the same message still appears, there may be a problem with the hard disk.

Perform the reinstallation procedure and return the hard disk to its condition at the time of purchase. (⇒ *Operating Instructions* "Reinstalling Software")

Windows startup is slow

- Restore the Setup Utility's settings to their default values.*¹
- If you install resident software after purchasing this computer, disable the resident software.
- This problem may be eliminated by adding more memory.*¹

*¹ The processing speed depends on the application software used, so this operation may not cause the processing speed to increase.

The computer does not enter standby or hibernation mode

- If a peripheral is connected, first remove the peripheral, then switch to standby or hibernation mode. If this still fails to enter standby or hibernation mode, restart the computer.
- It may take a minute or two to enter standby or hibernation mode. Wait for a moment.
- The computer may not enter standby mode properly and seems to be frozen in the mode that the computer is communicating via the modem. When you cannot execute operations, slide the power switch for four seconds or more to forcibly turn your computer off.
- When the internal LCD is closed, the computer may not enter system standby or system hibernation mode.*²
In order to activate standby or hibernation, set [Touch Pad] to [Disable] in the [Main] menu of the Setup Utility. (→ [page 113](#))

*² Functions that cause the computer to automatically enter standby or hibernation mode after a certain time interval has passed.



The computer does not resume from standby or hibernation mode

- One of the following operations may have been carried out.
 - In standby mode, the AC adaptor or battery pack was disconnected, or a peripheral was connected or disconnected.
 - The power switch was slid for four seconds or more to forcibly turn off the computer. Slide the power switch to turn on the computer. Data not saved is lost.

The computer does not power off (Windows does not shut down)

- If a peripheral is connected, disconnect it, and then shut down.
If it is possible to shut down when the peripheral is disconnected, then there may be a problem with the peripheral. Consult the peripheral manufacturer.
- Also check the items in "No response". (→ [page 135](#))
- If it is no longer possible to shut down Windows after installing application software, click [start] - [Control Panel] - [Add or Remove Programs], and remove the installed application.
If it is possible to shut down when the application is removed, then consult the application software manufacturer.
- Check a disk error using the following procedure:
 - ① Click [start] - [My Computer], right-click [Local Disk(C:)] and click [Properties].
 - ② Click [Tools] - [Check Now].
 - ③ In [Check disk options], add the check mark for [Automatically fix file system errors] and [Scan for and attempt recovery of bad sectors], and click [Start].
The time taken to check the disk depends on the settings in [Check disk options]. If the disk check does not solve the problem, perform the reinstallation procedure and return the hard disk to its condition at the time of purchase. (⇒ *Operating Instructions* "Reinstalling Software")

Even after entering the password, [Type your password] is displayed again

- The computer may be in ten-key mode.
If  lights up, press the **NumLk** key, to disable the ten-key mode, and then input.
- The computer may be in Caps Lock mode.
If  lights up, press the **Caps Lock** key, to disable the Caps Lock mode, and then input.

[Enter Password] is displayed



- Input your Supervisor Password or User Password. If you have forgotten it, contact your technical support office.

When resuming from the standby or hibernation mode, [Enter Password] does not appear

- Even when a password has been set in the [Security] menu of the Setup Utility, and [Password on boot] is set to [Enable]. [Enter Password] does not appear when the computer resumes from the standby or hibernation mode.
Set the Windows password with the following procedure, and make input of the Windows password required.
 - ① Click 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].

When the administrator password is forgotten

- Check whether you have created a password reset disk.
 - If you have:

A message is displayed when you fail to correctly enter the password. Follow the message's instructions and set the password again.
 - If you have not:

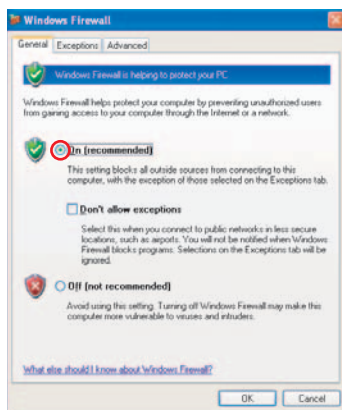
Perform the reinstallation procedure and return the hard disk to its condition at the time of purchase (⇒ *Operating Instructions* "Reinstalling Software"), then set up Windows and reset the password.

Windows does not start up and numbers or messages appear

- This is a system startup error. Refer to "List of Error Codes" in the *Operating Instructions*.
- If "Remove disks or other media. Press any key to restart" is displayed: → [page 126](#)

Problems with Operation during Use

Cannot start a network-used program, or cannot share files or printers



- 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.

- ① Click [start] - [Control Panel] - [Security Center] - [Windows Firewall].
- ② Click [Exceptions].
- ③ To register a network game or other programs as an exception:
Click [Add Program], click the program, and click [OK].
To set access through a specified port as an exception:
Click [Add Port], set the port, and click [OK].
To set a file or printer as an exception:
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 click [OK].

Is it necessary to enable the Windows Firewall?

- 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.

When “Automatic Updates” is enabled, will all updates be downloaded (or installed)?

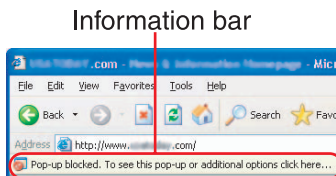
- Only Windows Update programs with a high level of priority will be automatically downloaded (or installed). Update programs with a comparatively low level of importance will not be downloaded (or installed) automatically. Check regularly whether new update programs have become available.

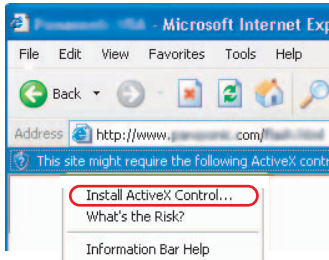
Security Center warning function does not operate

- The Security Center warning function will not operate if you are using a network domain, for example at a company.

Problem with Web page display (no display; display is completely white; advertisements, logon, and other pop-ups are not displayed)

- 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.
 - If the message “Pop-up blocked” is displayed: Click the message, and click “Temporarily Allow Pop-ups.” The blocked Pop-up will be displayed temporarily.





- If the message “This site might require the following ActiveX control...” is displayed:
 - ① Click the message, and click “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, click the Web page link while pressing the **Ctrl** key. The pop-up blocker function will be temporarily disabled.

Images in HTML e-mail messages are not displayed in Outlook Express

- 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, click 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)

- 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, click [Tools] - [Options] - [Security] and remove the check mark from [Do not allow attachments to be saved or opened that could potentially be a virus].

Windows operation is slow

- Also check the items in “Windows startup is slow”. (→ [page 127](#))
- If the performance is slow after installing the application software, click [start] - [Control Panel] - [Add or Remove Programs] and delete the application that has been installed.

- Defragment the disk with the Disk Defragmenter.
Disk defragmentation may take some time. (The time required will depend on the disk capacity.)
 - About the defragmentation
When files have been repeatedly written or rewritten to the hard disk, some files may become segmented and saved in fragments. If this fragmentation continues, it may take some time to read from or write to the hard disk. The Disk Defragmenter is a function that sorts these fragmented files in the most efficient order and enables you to read from and write to the hard disk quickly.
 - How to defragment disks:
 - ① Click [start] - [All Programs] - [Accessories] - [System Tools] - [Disk Defragmenter].
 - ② Click the drive (volume) you want to defragment and click [Analyze].
 - ③ Click [Defragment] on the [Disk Defragmenter] screen.
Defragmentation begins. Wait for a moment.
 - ④ When “Defragmentation is complete...” is displayed, click [Close].
 - If operations slow down during streaming playback, try changing the number of colors of the display with the following procedure:^{*1}
 - ① Click [start] - [Control Panel], and from the [See Also] area click [Other Control Panel Options] - [Intel(R) Extreme Graphics] - [Devices].
 - ② Change [Color] to [High Color], and click [OK].
- ^{*1} Note that this may not improve the speed of all operations.

Cannot scroll with the Touch Pad utility

- Click [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings] - [General settings], and check that the check mark is added for [Use Touch Pad function].
- If horizontal scrolling is not possible, in the above sequence, check that the check mark is added for [Use horizontal scroll function] in [General settings].
- If [Touch Pad utility settings] does not appear when you click [start] - [All Programs] - [Panasonic], click [start] - [Control Panel] - [Add or Remove Programs], and check that [TouchPadUtility] appears.
 - If it does not appear:
It is necessary to install the Touch Pad utility.
Click [start] - [Run] and input “c:\util\touchpad\setup.exe”, then click [OK].
Follow the onscreen instructions for the installation.

- If it does appear:
Click [TouchPadUtility], and click [Change/Remove] to remove the program. Then follow the procedure under "If it does not appear" above to reinstall.
- If an application has a screen in which only one of horizontal and vertical scrolling is possible, then regardless of the Touch Pad operation, scrolling only occurs in the permitted direction. (For example, in a screen permitting only horizontal scrolling, a vertical scroll operation results in horizontal scrolling.)

Cannot point correctly with the stylus included with the computer

- 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 21](#))

Some applications may not work properly

- When switching to a different user with the Fast User Switching function, the following problems may occur:
 - Some applications may not work properly.
 - Key combination with the **Fn** key may not work.
 - It may not be possible to set the settings of the display.
 - The wireless LAN cannot be used.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.
- 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.
- For application software using a network, refer also to "Cannot start a network-used program, or cannot share files or printers." (→ [page 131](#))

No response

- Is there an input screen (e.g., password input screen at startup) hidden behind another window? Use the **Alt+Tab** key to check for other windows being displayed.
- Press the **Ctrl+Shift+Esc** key to open Task Manager and close the software application which is not responding.
- After sliding the power switch for at least four seconds to turn off the computer, turn on again.

If Windows runs correctly, but the application software does not start, click [start] - [Control Panel] - [Add or Remove Programs] and remove the failing application software, then reinstall the application software.

Cannot play movies with the Windows® Media Player

- When you try to play a movie, is [Codec required] displayed?
Some video files use a Codec that is not installed as a standard. In these instances, 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.






The battery pack indicator lights red

- The battery level is very low (the charge is approx. 9% or less). Connect the AC adaptor. You can use the computer when the battery indicator light is orange. If you do not have an AC adaptor, save your data and power off your computer. After replacing the battery pack with a fully charged one, turn your computer on again.

The battery pack indicator is blinking

- If blinking red:
Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact your technical support office. The battery pack or charging circuit may be defective.
- If blinking orange:
Battery cannot be recharged temporarily because the internal temperature of the battery pack is outside the acceptable temperature range for recharging. Once the range requirement is satisfied, charging begins automatically. Your computer can be used normally in this state.

The cursor cannot be controlled properly

- Make sure [Touch Pad] is set to [Enable] on the [Main] menu of the Setup Utility. (→ [page 113](#))
- With the following procedure, check that no external mouse driver is installed. If it is installed, it may not possible to use the touch pad.
 - ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Double-click [Mice and other pointing devices].
If a name other than [Synaptics PS/2...] is displayed, then an external mouse driver is installed. Delete it, then restart the computer.
- Restart the computer by using the keyboard.
Press the  key, the R key, and select [Restart] with    , then press the Enter key.
If the computer does not respond to keyboard commands, read “No response.” (→ [page 135](#))

The cursor moves randomly

- Adjust the touch sensitivity.
To adjust the sensitivity, refer to "Adjusting the Sensitivity when Touching the Touch Pad" (→ [page 16](#)).
- Check that no external mouse driver is installed. (Refer to steps ① and ② under "The cursor cannot be controlled properly" above.)

The cursor cannot be moved with a connected mouse

- Check that the mouse is correctly connected.
- Install the driver for the connected mouse.
If the external mouse driver is installed, the touch pad may not be used. Refer to “When Using an External Mouse” (→ [page 88](#)).
For details of the mouse driver, consult the mouse manufacturer.
(In some cases, later versions may be available.)
If operation is not correct even after installing the driver, set [Touch Pad] to [Disable] in the [Main] menu of the Setup Utility. (→ [page 113](#))

Cannot scroll

- Check the item "Cannot scroll with the Touch Pad utility"([→ page 134](#)).

Screen is too dark

- Press the **Fn+F2** key. This makes the screen lighter.
- If the screen becomes darker after disconnecting the AC adaptor:
The computer has different set brightness levels for when the AC adaptor is connected and for when it is not connected. If you press the **Fn+F2** key to increase the brightness when the AC adaptor is not connected, this brightness is maintained, and determines the brightness next time the AC adaptor is disconnected.
(Making the display brighter shortens the battery operating time.)

There are red, green, or blue dots on the screen, or display defects (always-on pixels or always-off pixels)

- This is not a malfunction.
High-precision and advanced technologies are necessary for 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), this is not considered a defect.

Nothing is displayed on the screen

- Check if the power-saving mode is active.
 - If the power indicator is lit:
The display is turned off. Press a key with no independent effect, such as the **Ctrl** key or the **Shift** key.
Do not use a key that may make a selection (**Enter**, **Space**, **Esc**, **Y**, **N**, numeric keys, and so on).
 - If the power indicator is blinking or is not lit:
The standby mode or hibernation mode is entered. Slide the power switch.
- The display destination may be set to the external display.
Try changing the display destination by pressing the **Fn+F3** key.
If you want to switch the display destination repeatedly by pressing the **Fn+F3** key, make sure that the display destination has switched completely each time before pressing the **Fn+F3** key again.
- The screen may become darker. Press the **Fn+F2** key to make the screen brighter.

When the screensaver starts while the display is rotated, nothing is displayed on the screen

- Some screensaver types do not display anything on the screen for the first minute or so. Try changing the screensaver type.

There is an afterimage

- Display a different screen.
If the same screen is displayed for a long time, this may leave an afterimage.

The screen becomes disordered

- 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.

Switching between internal and external displays does not work

- The display destination cannot be switched while a video such as an MPEG file is playing. Stop playing the video before switching the display destination.

The display cannot be changed and the operation of the touch pad and the touchscreen do not match the display angle

- When some applications are running, the display may not be rotated and the operation of the touch pad and the touchscreen may not match the display angle. Press the **Ctrl** + **Alt** + **R** key to rotate the display to the landscape mode. After exiting the application, rotate the display, then start up the application again.
- If the problem persists, restart the computer.

To enlarge the display

- To enlarge icons for example on the whole screen, use the "Icon Enlarger" (→ [page 120](#)).
- For partial enlargement, use the "Loupe Utility" (→ [page 121](#)).

Nothing appears on the external display, or the display is not correct

- Check that the external display cables are correctly connected.
- Check that the external display is turned on.
- Check that the external display settings are correct.
- 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 this case, turn on the external display again.
However, in the case of some external displays, the screen display may be distorted or the mouse cursor may not be properly displayed depending on the settings. In this case, try setting the number of colors, screen area (resolution), and refresh rate to smaller values.

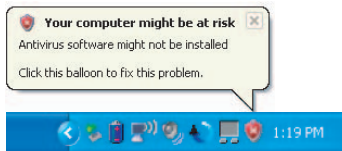
To use both the external display and the internal LCD


- Connect the external display, then press the **Fn+F3** key to switch the display. If this does not switch the display, use the following procedure.
 - ① Click [start] - [Control Panel], from the [See Also] area click [Other Control Panel Options], then click [Intel(R) Extreme Graphics] - [Devices].
 - ② Click the display destination, and click [OK].
 - When the screen is displayed to a simultaneous display: [Intel(R) Dual Display Clone]
 - When Extended Desktop mode is set: [Extended Desktop] (→ [page 84](#))
- When [Command Prompt] is set to "Full Screen" by pressing the **Alt + Enter** key, the screen is displayed on one of the displays only. Press the **Alt+Enter** key to return to the window display.
- Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.).

Problems with Notification Area

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

The screen shown is only an example




- 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 anti-virus 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 Click  on the notification area. The [Windows Security Center] screen will be displayed.
 - ③ Click [Recommendations] in [Firewall] or [Virus Protection], or click [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.

is displayed

- 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.

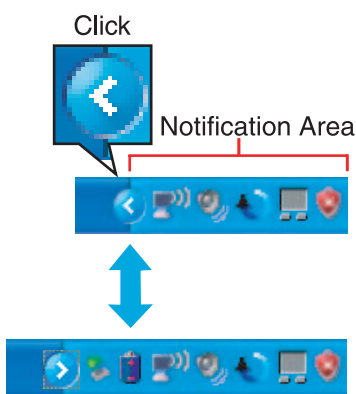
You can continue using the computer even if these messages continue to be displayed, but we recommend that “Automatic Updates” is set as [Automatic] to maintain its latest condition.


- ① Read the message.
- ② Click  on the notification area.
The [Automatic Updates] screen will be displayed.
- ③ Click [More Options], and set the Automatic Updates to [Automatic (recommended)].

The date and time are incorrect


- Click [start] - [Control Panel] - [Date, Time, Language, and Regional Options] - [Date and Time], and correct the date and time.
- If you continue to experience problems, the internal battery maintaining the clock may need to be replaced. Contact your technical support office.
- 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.

The notification area icons are hidden and cannot be seen




- Click the  icon on the notification area to display the hidden icons.
- If you want all icons to be displayed constantly, right-click on the notification area, click on [Properties], and remove the check mark from [Hide inactive icons] in [Taskbar].

Pressing a letter key produces a number

- The computer may be in ten-key mode.
If  lights up, press the **NumLk** key, to disable the ten-key mode, and then input.

Only capital letters are being input

- The computer may be in Caps Lock mode.
If  lights up, press the **Caps Lock** key, to disable the Caps Lock mode, and then input.

How to input European characters (ß, à, ç etc.), symbols or Euro currency symbol is unclear

- With the following procedure, enter a character using the code table.
 - ① Click [start] - [All Programs] - [Accessories] - [System Tools] - [Character Map].
 - ② Point to the desired font name, such as European fonts, and select it.

Combined key operations with the Fn key do not work

- Check whether [Fn/Ctrl Key] is set to [Replace] in the [Main] menu of the Setup Utility. ([→ page 113](#)).
Change the setting back to [Normal], or if continuing with [Replace] selected, use the **Ctrl** key in place of the **Fn** key.

Cannot input by touching the display

- When mouse drivers are installed (i.e. IntelliMouse), the touchscreen is unable to be used. Install the touchscreen driver again.
- Has the touchscreen driver been properly installed?

Unable to read/write to the hard disk

- Your drive or file may not have been properly set.
- Check if there is sufficient space on the hard disk.
- Your hard disk content may be corrupted. Contact your technical support office.
- Check that the account with which you are logged on has read and write permissions.

Cannot read from or write to a floppy disk




- Are you using the Panasonic CF-VFDU03 USB floppy disk drive (optional)?
- Has the floppy disk drive been correctly connected?
- Has the floppy disk been correctly inserted?
- Has the floppy disk been correctly formatted?
For the method of formatting, see the next item ("To format a floppy disk").
- Your floppy disk content may be corrupted.
- If it is possible to read but not write, check whether the floppy disk is write-protected.

To format a floppy disk

- Use the following procedure to format a disk.
 - ① Click [start] - [My Computer] - [3 1/2 Floppy (A:)].
 - ② Click [File] - [Format] in the menu.
 - ③ Check the disk capacity and format type, then click [Start].

The sound is not heard



- Try changing the mute by pressing the **Fn+F4** key or the **Fn+F6** key.
- With the following procedure, check that the Windows sound function is operating. (If it is not operating, pressing the **Fn+F5** key or the **Fn+F6** key displays the pop-up window shown on the left, but there is no sound.)
 - ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Double-click [Sound, video, and game controllers] and check if  is displayed. If  is displayed, click the driver for which  is shown, press the **Del** key, and click [OK] in the confirm deletion screen. Then restart the computer.



To change the volume

- Press the **Fn+F5** key (to lower the volume) or the **Fn+F6** key (to increase the volume).

The audio is distorted

- During audio playback, operating a key with the **Fn** key may cause distortion of the sound. Stop playing and start again.

Your peripheral does not work

- Check that the drivers are installed for the connected devices.
 - ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Check whether  is shown for the devices.
If  is shown:
Try removing and inserting the device once more. If the problem persists, restart the computer.
- Check the peripheral manufacturer's homepage or other sources to see if a driver update is available.
- After installing the driver, be sure to 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:
 - ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Select the applied device, and 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.)
- When operation resumes from the standby or hibernation mode, devices such as an external mouse, modem or PC Cards may not function properly. In such cases, restart your computer.
- If it still does not work after checking the above items, consult the peripheral manufacturer.

An error occurs while installing the driver

- Check that the driver is supported by the operating system. If you use an incompatible driver, malfunction may occur. For a driver, consult the manufacturer of the peripheral you are using.

The device will not operate properly if a different mouse driver is installed

- When you install a different mouse driver, such as IntelliPoint for Microsoft's IntelliMouse, the mouse driver currently installed in the computer may need to be uninstalled. For information on how to uninstall the driver, refer to "When Using an External Mouse." (→ [page 88](#)).
- If not using the touch pad, and using an external mouse only, set [Touch Pad] to [Disable] in the [Main] menu of the Setup Utility. (→ [page 113](#))

A PC Card does not work

- Confirm that the card conforms to the PC Card Standard.
- Make sure the card is properly inserted (→ [page 64](#)).
- Check that the proper port settings have been made.
 - ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② Double-click [PCMCIA adapters], and double-click the relevant device. In [Resources], if [Conflicting device list] shows [No conflicts], there is no conflict.
- Read the instructions supplied with the PC card, or consult the PC card manufacturer.
- Check that you are using a driver supported by the operating system.

You do not know the available RAM module

- Refer to *Operating Instructions* "RAM Module" or "Specifications".

To check if the additional RAM module has been installed successfully

- If the installation is successful, the main memory and total RAM module size appears in the [Information] menu of the Setup Utility (→ [page 113](#)).
- If the RAM module is not confirmed:
 - Turn the computer off and reinsert the RAM module.

- Confirm the recommended specifications.
Regarding the RAM module, refer to *Operating Instructions* "RAM Module" or "Specifications."

The address map for IRQ, I/O port address, etc. is unclear

- You can check with the following procedure.
 - ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
 - ② In the [View] menu, click [Resources by type].

A device connected to a PC Card does not operate correctly (e.g. unstable video images when writing videos to a DV camera using IEEE1394 PC card)

- This may occur because of performance degradation as a result of the CPU power-saving function. Execute the following operations after logging on to Windows with the administrator authority.
 - ① Input [c:\util\cpupower\setup.exe] in [start] - [Run], and then click [OK].
Follow the onscreen instructions.
 - ② Click [start] - [All Programs] - [Panasonic] - [CPU Idle Setting].
 - ③ Click [Performance], click [OK] and then click [Yes].
The computer will be restarted automatically.
 - If these phenomena occur even with the above settings, click [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes], click [Always On] from [Power schemes], and click [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/

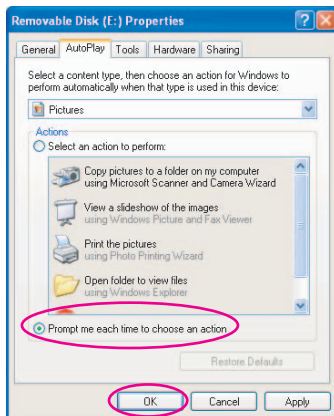
Laptop].

As a result of the LAN communications speed being extremely low, or a wireless LAN connection being lost, if the CPU power-saving setting is set, then when the LAN or whatever is not used, it is recommended to return to the above settings.

Cannot use SD memory card security function

- To use the SD memory card security function, SD card settings are required. (→ [page 71](#))
- Refer also to "Cannot log-on to Windows with the SD memory card." (→ [page 125](#))

Inserting an SD memory card does not produce the operation selection screen



- Is Windows set to automatically select the operation to be executed?
To select the operation each time a card is inserted, make the settings with the following procedure.
 - ① Click [start] - [My Computer].
 - ② Right-click [Removable Disks] on SD memory card/MultiMedia Card, and then click [Properties].
 - ③ Click [AutoPlay].
 - ④ Select the file type, click [Prompt me each time to choose an action], and click [OK].

Unable to connect to a network

- Check that the network you are using ([Modem], [LAN] or [Wireless LAN]) is set to [Enable] in the [Advanced] menu of the Setup Utility (→ [page 114](#)).
- Restart the computer.
- 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 link indicator on the hub unit does not light, select a speed to match the hub unit (→ [page 98](#)).

Email, Internet, and Intranet material does not appear

- When connected via a phone line:
 - A contract with an Internet service provider (ISP) is required. Following directions given by the ISP, check the TCP/IP settings.
- When connected via a LAN:
 - A contract with an ISP, or an application to the network system administrator is required.
 - Following directions given by the ISP or network system administrator, make the protocol and other settings.
 - Are the LAN cables correctly connected?
- When connected via a wireless LAN:
See the item "Problems with Wireless LAN" (→ [page 154](#)).

The communications speed is low

- Setting [CPU Idle Setting] to [Performance] may improve the communication speed. See "A device connected to a PC Card does not operate correctly" (→ [page 150](#)).



Cannot check the computer's MAC address

- Check the computer's MAC address using the following procedure:
Check that the LAN or wireless LAN is not disabled in the Setup Utility or the Device Manager, then use the following procedure.
 - ① Click [start] - [All Programs] - [Accessories] - [Command Prompt].
 - ② Input [ipconfig /all], and press the **Enter** key.

- ③ Wireless LAN's MAC address:
Make a note of the 12-digit string of alphanumeric characters displayed on the wireless LAN's "Physical Address" line.
LAN's MAC address:
Make a note of the 12-digit string of alphanumeric characters displayed on the LAN's "Physical Address" line.
- ④ Enter "exit," and press the Enter key.

Access point is not detected

- Check that the access point is powered on.
- 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 for 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 114](#))
 - Wireless device off:



Confirm that the  /  /  icon is displayed on the notification area.

If the  /  /  icon is not displayed on the notification area, confirm that [Wireless On] is selected in [Intel PROSet/Wireless] screen. (→ [page 105](#))

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.

Confirm that the  icon is displayed on the notification area. If the  is displayed,

the wireless LAN is off. Click  and click [Enable Wireless LAN].

Even with the wireless LAN turned on, 802.11a may be disabled. To use 802.11a, use the following procedure to enable it.

① Click the  icon on the notification area.

② In the menu, click [Enable 802.11a].


If [Disable 802.11a] is displayed, this means it is currently enabled.


- 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.).

Cannot communicate with the access point

- 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.
 - 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).
 - ① When the  icon is displayed on the notification area:

Right-click the  icon, and click [Open Network Connections].

When the  icon is not displayed on the notification area:
Click [start] - [Control Panel] - [Network and Internet Connections] - [Network Connections].
 - ② Right-click [Wireless Network Connection], and click [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 152](#)) and register it according to the operating instructions of the access point.

The communications speed is low

- 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 communications speed may be reduced for the following reasons. Shorten the distance between the computer and the access point.
 - IEEE 802.11g or IEEE 802.11b may be affected by a microwave oven or similar, reducing the communications speed while the microwave oven is in operation.
 - IEEE 802.11a is more susceptible to interference than IEEE 802.11g or IEEE 802.11b, and therefore the communications speed may be reduced if there is a wall between the computer and the access point or if the computer is further away.
- When using a wireless LAN in an environment that combines both IEEE802.11g and IEEE802.11b, communication speed when using IEEE802.11g may decrease.
- Using the CPU Idle Setting to set to [Performance] may improve this problem. See "A device connected to a PC Card does not operate correctly" (→ [page 150](#)).

Communications with access point are cut off

- 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.
- Using the CPU Idle Setting to set to [Performance] may improve this problem. See "A device connected to a PC Card does not operate correctly" (→ [page 150](#)).

Unable to connect to a network

- 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

- 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]

- It may become impossible to set the wireless LAN to [Enable] or [Disable] if these settings are changed repeatedly on the [Network Connections] 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).

The icon is not displayed (or has disappeared)

- To display the  icon, perform the following procedure.
 - ① Click [start] - [Control Panel] - [Network and Internet Connections] - [Network Connections].
 - ② Right-click [Wireless Network Connection], and click [Properties].
 - ③ Add a checkmark for [Show icon in notification area when connected], and then click [OK].

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 your technical support office for advice. (If you have not logged on to Windows with the administrator authority, some information will be displayed as [Not Found].)

◆ Running PC Information Viewer

- ① Click [start] - [All Programs] - [Panasonic] - [PC Information Viewer] - [PC Information Viewer].
Click on the 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 Click [Save].
 - To save the item that is displayed.
Click [Save only the information displayed] and click [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.
Click [Save all the information] and click [OK].
- ③ Select the folder, input the file name, then click [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 the **Ctrl+Alt+F8** key.
- ③ When the message "The copy of the screen was saved..." is displayed, click [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.)

- To display the extension of the file, click [Tools] - [Folder Options] - [View] from Explorer, and remove the check mark for [Hide extensions for known file types] under the [Advanced settings] section.

NOTE

- You can also save a copy of the screen to a file using the following procedure:
Click [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 the **Ctrl+Alt+F8** key. This setting can be changed using the following procedure:
 - ① Click [start] - [All Programs] - [Panasonic] - [PC Information Viewer].
 - ② Right-click [Screen Copy], and then click [Properties] - [Shortcut].
 - ③ Move the cursor to [Shortcut key], press the key to be used for the shortcut, and then click [OK].
 - Colors are saved in 256 colors.
 - When using an Extended Desktop:
A copy of the screen displayed on the primary device will be saved.
-

Information for Installed Applications

If application software supplied with this computer does not function correctly, carefully read the problem-solving section of this *Reference Manual* and the help information for the application software.

If you can connect to the Internet, refer to “Frequently Asked Questions” and other support information available on the relevant homepage for the manufacturer of the application software.

If you cannot find any hints or methods there to resolve your problem, forward your question to the manufacturer.

When forwarding an inquiry, include information on your computer’s usage conditions.

- Pre-installed software

Contact the Panasonic technical support office as listed in the “LIMITED WARRANTY.”

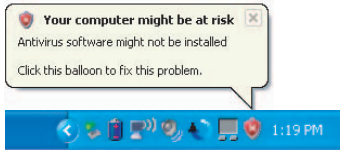
Confirm the contact information for the Panasonic technical support office using the following procedure:



- ① Click [start], right-click on [My Computer], and click on [Properties].
- ② Click on [Support Information].

Protecting Your Computer from Viruses

A computer virus propagates through infections from one computer to another. Some viruses are highly malicious, destroying computer data, or preventing the computer from starting up properly.

To Protect Your Computer from being Infected by a Virus



The first time you start up Windows, the message [Your computer might be at risk] will be displayed from the Security Center icon  on the notification area at the bottom right of the screen. Click on the  icon, and take the appropriate measures.

- For more details, see "Problems with Notification Area" (→ [page 143](#)) and the *Operating Instructions*.

◆ Use antivirus software (commercially available). (→ [page 162](#))

- Update virus definition files frequently, and conduct virus checks regularly.

◆ Do not use disks or programs of unknown origin.

- Run a virus check on new programs before executing them.

◆ Use Windows Firewall. (→ [page 162](#))

◆ Update Windows. (→ [page 164](#))

- In some cases, security-related “patch” programs are provided as measures against the latest types of viruses.

◆ Get the newest information about viruses from the Website of Microsoft Corp. Website and other software makers.

◆ When using the Internet or e-mail

- Do not open e-mail from unknown senders.

- When downloading programs from the Internet, do not execute them directly; save them once to your hard disk, and run a virus check first.

NOTE

- We recommend that you back up your data regularly. Even if your computer is infected with a virus, it is possible to reinstall the system and recover your data from the backup.

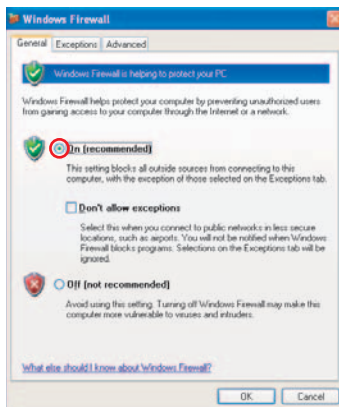
Using Antivirus Software

Especially in the following cases, we recommend you perform a virus check. Be sure to use the most up-to-date antivirus software when checking for viruses:

- After booting your computer
- Set your anti-virus software to check for viruses when sending or receiving e-mail
- After receiving data

We recommend that you check data received on disks or from external sources, such as data downloaded from the network, Internet, e-mail, etc. (For compressed files, decompression may be required before running a check.)

Using Windows Firewall



Windows Firewall protects a computer from unlawful access via the Internet. At the time of purchase, the firewall is set to “Enable.”

Make the settings by the following methods:

- ① Click [start] - [Control Panel] - [Security Center] - [Windows Firewall].
- ② Click [General], [Exceptions], [Advanced], and if necessary, change the settings and click [OK].

NOTE

- Some network-related software and some online network games do not operate normally if the Windows Firewall is enabled. Ask the software manufacturer about the Windows Firewall when using such software. (Refer also to "Problems with Notification Area" (→ [page 143](#)).) In addition, depending on the usage conditions, the Windows Firewall may not work properly.

- For further details on the Windows Firewall, see the help displayed by the following methods:
 - ① Click [start] - [Help and Support] and input [Windows Firewall] into [Search].
 - ② Click [Windows Firewall overview].
-

If a Virus Is Discovered

In order to prevent secondary infection, disconnect from the network, and conduct a check of the hard disk and other data.

To Update this Computer to its Latest Version

To Update Windows to its Latest Version

In an Internet-connected environment, execute the Windows Update, and use the latest Windows service pack or patch program to update Windows on your computer to its latest version. This update is also an effective measure for preventing viruses and other forms of computer attack.

- At the time of purchase, the automatic Windows Update in the [Windows Security Center] has not been set. For details of the Security Center's automatic Update functions, refer to "Problems with Notification Area" (→ [page 143](#)) or the *Operating Instructions*.

Update Windows



1 Perform Windows Update.

Click [start] - [All Programs] - [Windows Update].

Do not apply "Driver Updates" even if a message to update a driver appears. If a driver update is required, contact your technical support office.

NOTE

- Be sure to perform Windows Update after reinstallation.
-

◆ How to confirm installed patch programs

Click [start] - [Control panel] - [Add or Remove Programs], and add a check mark for [Show updates].

- Some patch programs are not displayed.
- Of the programs displayed, programs marked as "Hotfix" contain security-related patch programs. Be careful not to erase these by mistake.

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\tools,
c:\windows\valueadd

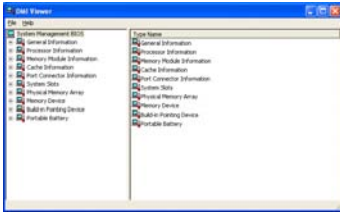
Windows Security

Windows has security functions aside from the security functions in the Setup Utility. For details, refer to Windows Help.

To View the System Configuration (DMI Viewer)

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

Running DMI Viewer



1

Click [DMI Viewer] from [start] - [All Programs] - [Panasonic].

The screen shown at left is displayed.

When you click 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.


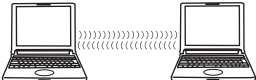

- To save the item that is displayed:
Click [Save Selected Data] from the [File] menu.
- To save all items:
Click [Save All Data] from the [File] menu.

2

Select the folder, input the file name, then click [Save].

Glossary contains terms and explanations that are convenient to know when using your computer.

◆ A

<p>Access Point</p>	<p>A relay point that links a computer to the Internet when connecting to a network. When connecting to the Internet through a modem, the provider uses that relay point. When using a wireless LAN (→ page 181), the access point also refers to the device that relays the communication.</p>
<p>Account</p>	<p>Refers to the authority used when logging on to Windows (→ page 174), using e-mail or connecting to the Internet or other network. The Account is used to identify the user.</p> <ul style="list-style-type: none"> ● In Windows, a separate account is allocated to each user, so Windows function settings, such as the desktop screen, can be changed to suit each user. How to create an account: ⇒ <i>Operating Instructions</i> “First-time Operation” ● In the case of limited accounts, some functions and applications cannot be accessed. 
<p>Ad Hoc Mode</p>	<p>A wireless LAN communication method in which two computers with wireless LAN conduct data interactions without using an Access Point (see above). Data interaction methods between two or more computers using an Access Point are referred to as “Infrastructure Mode”.</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Ad Hoc Mode</p>  </div> <div style="text-align: center;"> <p>Infrastructure Mode</p>  </div> </div>
<p>Administrator</p>	<p>A user or account (see above) with the authority to use or administer all functions on the computer or network.</p>
<p>ADSL</p>	<p>A type of broadband connection; a service that executes high-speed data communications along standard analog telephone lines, using high frequencies not used by telephones. An ADSL Modem is installed at both ends of the telephone line connecting the telephone exchange station with the regular telephone. High-speed data communications are conducted between these two modems.</p>

◆ A

AES	Certified by National Institute of Standards and Technology (NIST) in 2001 as the U.S. government's next-generation standard encryption technology. When using AES with a wireless LAN, you will require an access point that is compatible with AES. It does not offer compatibility with WEP, but unlike TKIP, it is said to offer fast encryption and decryption processing, with little effects on communication speed.
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◆ B

BIOS – Basic Input/Output System	A set of programs responsible for basic control of the computer. BIOS is activated automatically when the computer is turned on, so the user may not be aware of BIOS and its functions. <ul style="list-style-type: none">● On this computer, operations are controlled by BIOS alone until Windows starts up. After Windows starts up, BIOS and Windows work in harmony to control the computer's operations. Setup Utility (→ page 178) is a program that operates on BIOS.
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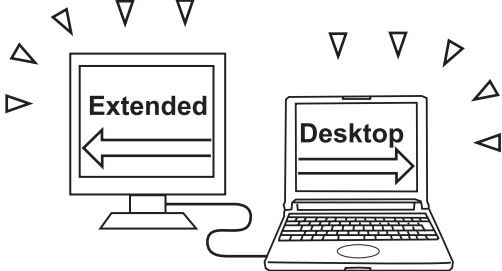
◆ C

Click	An operation in which a mouse button (right or left button) or the touch pad is pressed once, quickly, and then released. When this operation is executed twice in quick succession, it is referred to as a “double click” (→ page 169). A click is used when selecting or executing a program, menu item, or piece of data. Clicking the right button is called “right click”, and clicking the left button is called “left click”, but generally the term “click” refers to a “left click”.
CODEC – COmpression/DECompression	A driver (→ page 169) or device that compresses and saves large-volume files, like DVD-Video, and returns the saved data to video or audio format.
Computer Virus	A program that proliferates by spreading an “infection” from one computer to other computers. Some viruses are highly malicious, destroying computer data, or preventing the computer from starting up properly. Anti-virus software and other related systems are effective in protecting computers from viruses. It is also important to execute Windows Updates regularly and to use the latest Windows Service Packs and correction programs, so that Windows is maintained in its most recent form.

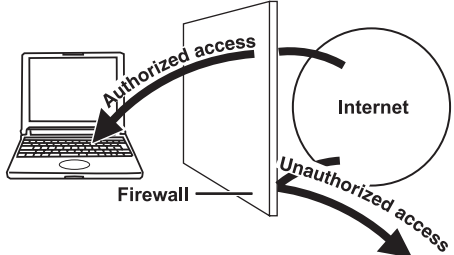
◆ D

DDR SDRAM	Internal devices (below) in a computer execute a variety of operations using a clock signal that turns on and off repeatedly at fixed intervals. SDRAM (Synchronous DRAM) is a type of memory that operates in synchronous with this clock cycle (→ page 174). DDR SDRAM (Double-data-rate synchronous DRAM) uses twice the data transmission speed of the standard SDRAM.
Designed for Microsoft® Windows® XP logo	<p>This mark is affixed to products that have been certified to meet computer device standards, tested according to standards defined by Microsoft, and confirmed to enable use of new functions incorporated into Windows XP.</p> 
Device	A general term for peripheral equipment connected to the computer, such as a keyboard or external hard disk. The term “Device” also refers to components built into the computer itself, such as the hard disk drive, modem, or LAN.
Dithering	Displaying an intermediate color tone by combining several colors. For example, one form of dithering is to create a gray image by lining up alternating black and white pixels.
Double Click	Pressing and releasing the mouse button or touch pad twice in quick succession to display data or execute a program or menu. The right mouse button is used to execute a double click.
Drag	The mouse button is held down while the mouse is moved to select regions, or to move selected icons or windows. In the case of the touch pad, the drag operation can be executed by moving the finger across the pad surface while the mouse button is depressed.
Driver	Software that provides the OS with information about a connected peripheral device (what type of product it is, and how it should be operated), so that the OS can operate that device properly. This software is also called a “device driver”. The drivers for some peripheral devices are included in Windows, but when the driver is not included, it must be installed in order to use the device.

◆ E

<p>Encryption</p>	<p>Changing data into a form that cannot be understood by others. A rule (algorithm) and a key (network key) for converting data between a sender and a receiver are determined, and the data converted (encrypted) by the sender is returned to its original form (decrypted) by the receiver. In this way, important interactions cannot be deciphered by others.</p>
<p>ESS-ID – Extended Service Set ID</p>	<p>A text string that identifies the sender when using wireless LAN. Since communications use wireless LAN radio waves, data can be exchanged with a large number of networks. Each computer or access point (→ page 167) confirms this text string, allowing communications only between parties with matching ESS-IDs.</p>
<p>Extended Desktop (Dual Display)</p>	<p>Using the internal LCD (→ page 173) and an external display as a continuous display field. Windows and other items can be dragged between the two displays.</p> 

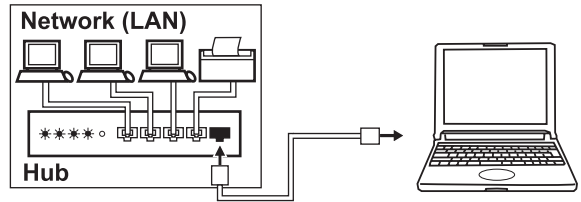
◆ F

<p>Firewall</p>	<p>A security system for protecting the computer from unauthorized access via the Internet or other external networks. The firewall regulates the data exchanged between the computer and the external network, so that only approved data can pass through.</p> <ul style="list-style-type: none"> ● Windows Firewall is provided in Windows XP. 
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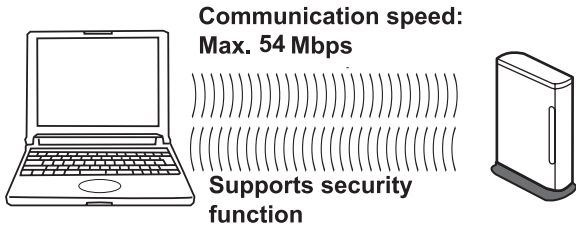
◆ F

FLASH Card	A device for recording data. A FLASH card has the same characteristics as a hard disk in that data is not erased even when the power is turned off, but because it has no mechanical components, it can be used more easily than a hard disk. There are various types of FLASH cards, including “Compact Flash” and “Smart Media”, which can be used in a wide range of devices like portable computers and digital cameras.
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◆ H

Hibernation	A function that enables the current working conditions to be stored on the hard disk when the power is turned off, so that when the power resumes, the working conditions immediately before the power was turned off will be displayed on the screen.
Hotkey	<p>A specified function executed by pressing two or more allocated keys in combination. (There may be a “Hotkey” function, which executes a specified function with a single key.)</p> <ul style="list-style-type: none"> ● One example of a “Hotkey” operation on this computer: pressing the Fn key and the F9 key simultaneously displays a pop-up window revealing the remaining battery power. The [Fn] key can be locked in place, and pop-up windows can be set to “display” or “no display” (→ page 31).
Hub	<p>A device for connecting several cables of the same type to relay information. Examples are USB hubs and network hubs.</p>  <p>The diagram shows a rectangular box labeled 'Network (LAN) Hub'. Inside the box, there are four computer monitors and one printer, each connected to a port on the hub. Below the hub, there are several small icons representing network ports. A cable with a square connector is shown extending from the hub to a laptop on the right.</p>



<p>Icon</p>	<p>A small picture displayed on the desktop or the notification area. The picture expresses the content or function of an application in an easy-to-understand format. The application can be executed by double-clicking (→ page 169) on this icon. Some applications can be executed by dragging and dropping a folder or document file over the icon.</p> <div data-bbox="411 443 842 580" style="text-align: center;">  <p>Internet Explorer Important Tips Windows Media Player</p> </div>
<p>IEEE802.11a</p>	<p>A wireless LAN standard approved by IEEE (Institute of Electrical and Electronics Engineers). Enables communications at speeds up to 54 Mbps^{*1}. A standard using a 5 GHz frequency band. Outdoor communications using IEEE802.11a (5 GHz wireless LAN), however, are prohibited. When using IEEE802.11a in other countries, follow the each country's respective law. Also supports encryption using WEP (Wired Equivalent Privacy) (→ page 181), AES (→ page 168), and TKIP (Temporary Key Integrity Protocol) (→ page 180).</p> <p>^{*1} The values shown are the maximum theoretical values for wireless LAN standards, and do not indicate actual data transmission speeds.</p> <div data-bbox="448 890 1027 1120" style="text-align: center;">  <p>Communication speed: Max. 54 Mbps</p> <p>Supports security function</p> </div>




<p>IEEE802.11b</p>	<p>A wireless LAN standard approved by IEEE (Institute of Electrical and Electronics Engineers). Communications at speeds up to 11 Mbps^{*2} can be achieved using frequency bands in the 2.4 GHz range. Also supports encryption using WEP (Wired Equivalent Privacy) (→ page 181), AES (→ page 168), and TKIP (Temporary Key Integrity Protocol) (→ page 180).</p> <p>^{*2} The values shown are the maximum theoretical values for wireless LAN standards, and do not indicate actual data transmission speeds.</p> <div data-bbox="443 531 991 715"> <p>Communication speed: Max. 11 Mbps</p> <p>Supports security function</p> </div>
<p>IEEE802.11g</p>	<p>A wireless LAN standard approved by IEEE (Institute of Electrical and Electronics Engineers). Enables communications at speeds up to 54 Mbps^{*3}. This standard enables data transfers at about five times the speed of 802.11b, using the same 2.4 GHz frequency band. Also supports encryption using WEP (Wired Equivalent Privacy) (→ page 181), AES (→ page 168), and TKIP (Temporary Key Integrity Protocol) (→ page 180).</p> <p>^{*3} The values shown are the maximum theoretical values for wireless LAN standards, and do not indicate actual data transmission speeds.</p> <div data-bbox="451 983 999 1294"> <p>About 5 times of 802.11b</p> <p>Communication speed: Max. 54 Mbps</p> <p>Supports security function</p> </div>
<p>IEEE802.1X</p>	<p>A standard for wireless LAN user authentication approved by IEEE (Institute of Electrical and Electronics Engineers). Authentication occurs before computer communications begin, so only authorized users can conduct communications.</p>
<p>Internal LCD</p>	<p>The LCD display in the main body of the computer. Compare “External Display” (a separate display connected to the computer).</p>

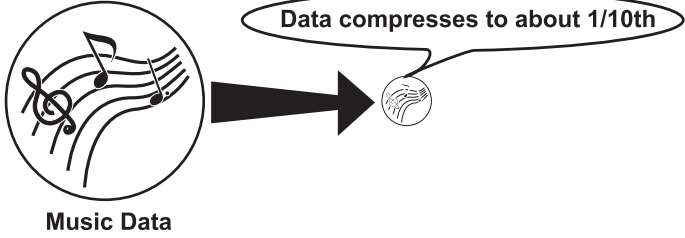
◆ L

Legacy USB	<p>A mechanism that makes the computer confirm the USB (→ page 181) device after the computer's power is turned on and before Windows starts up. MS-DOS was developed before the origin of USB technology, the ability to recognize USB devices was not included. However, if the computer is compatible with Legacy USB, it will recognize USB devices.</p> <ul style="list-style-type: none"> ● In this computer, the Setup Utility includes the item [Legacy USB Support]. If this item is set to [Enable], the computer will recognize a USB keyboard, USB CD/DVD drive or USB floppy disk drive before Windows starts up.
LAN – Local Area Network	A computer network confined to a comparatively limited area, such as a company or a school.
Log-Off	Deactivating the status in which the user can access a network or computer system (Logged On). Also referred to as “log out”.
Log-On	The status in which the user can access a network or computer system. Also referred to as “log in”.


◆ M

MAC Address	<p>A unique number allocated to each device (network card, built-in wireless LAN module, etc.) used on a network. Displayed in a format such as “00:11:22:AA:BB:CC”. This number is allocated in advance by the device manufacturer. No two devices have the same number. On Windows XP, this is displayed as the “Physical Address”.</p> <ul style="list-style-type: none"> ● How to confirm the MAC Address on this computer: → page 152
Memory	A device for storing data on a computer. There are two types of memory – RAM and ROM – but usually, this refers to RAM. RAM (whose contents can be rewritten) is used for the main memory, or the cache memory. ROM (whose contents cannot be rewritten) is used for BIOS and other systems.
Menu Bar	<p>The segment at the top of the window below the title bar (→ page 180), where software functions are displayed. Common menus include “File”, “Edit” and “View”.</p> 

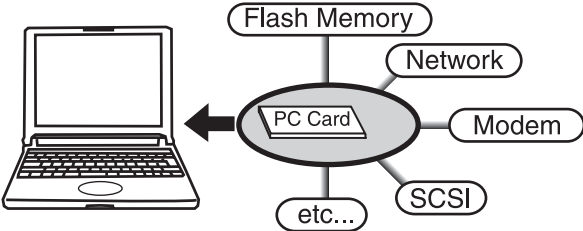
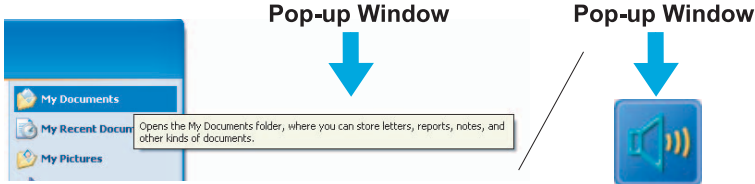
◆ M

<p>MP3</p>	<p>A file format that enables music to be played on a computer, using technology that compresses music data to about 1/10th its original size, with very little negative effect on sound quality.</p> 
<p>MPEG</p>	<p>A technology that efficiently compresses digital video data. MPEG2 is one of this technology with outstanding image quality and is used in DVD-Video and other media. Another related technology, MPEG1, uses a lower compression rate than MPEG2, and is used in Video CD. There is also an MPEG4 standard, which is designed for distribution of video with low picture quality or high compression rates through telephone lines and other lines with low communication speeds.</p>

◆ N

<p>Network Key</p>	<p>Encryption: → page 170</p>
<p>Notification Area</p>	<p>Appears at the right edge of the Taskbar (→ page 179) displayed at the bottom of the screen (time display and other icons). Tools for changing settings, such as volume adjustments, are included in this area. Also referred to as System Tray.</p> 
<p>NTFS – NT File System</p>	<p>A file system for recording and managing files and data on Windows NT®, Windows® 2000, and Windows® XP. Before NTFS, FAT (File Allocation Table) was the file system used in DOS and Windows, but NTFS offers far greater robustness, security, and performance.</p>

◆ P

<p>Partition</p>	<p>A region created on a hard disk. One or more partitions can be created on a single hard disk. With multiple partitions, one disk can be operated as though it is more than one disk. For example, if a 20GB hard disk is divided into two partitions – a 10GB C Drive and a 10GB D Drive – then the C drive can operate Windows and other system and application software, while the D drive can be used for storing data.</p>
<p>PC Card</p>	<p>A device for adding a wide range of functions to a computer. Examples are modem cards, network cards, FLASH Memory cards, and SCSI cards. PC Cards are designated as Type I, Type II, or Type III, depending on their thickness. Also known as PCMCIA.</p> <ul style="list-style-type: none"> ● The PC Card Slot on this computer is compatible with Type I and Type II PC Cards. 
<p>Pop-up Window</p>	<p>A window that appears automatically when a specified screen is displayed or when the cursor is moved to a particular position, etc. This window displays information including explanations of how to use the window, or gives a menu of functions that can be selected. In many cases, this window only appears for a short time and disappears when it is no longer needed.</p> <ul style="list-style-type: none"> ● On this computer, the term “Pop-up Window” also refers to windows that are displayed when a specified key is pressed in combination with the Fn key. 
<p>Protocol</p>	<p>Common rules required to conduct data communications between computers. To enable data interactions between different computers, those computers must follow the same rules; for example, in terms of the timing of data transmission and reception, or the format of the information sent and received. For the Internet, a protocol called TCP/IP (Transmission Control Protocol/Internet Protocol) is used by a wide range of software to send and receive data.</p>

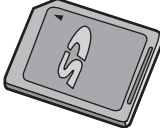
◆ P

Provider	A company that offers Internet connections. Different providers offer different services and have varied payment systems, so be sure to check details thoroughly before signing up with a given company. Sometimes referred to as Internet Service Providers (ISP).
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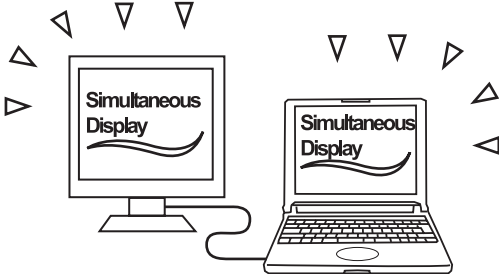
◆ R

RAM Module	A component that incorporates a semiconductor memory chip into a single substrate. This module is inserted into the RAM Module Slot to increase the computer's available memory (→ page 174). Increasing memory (RAM) offers a number of benefits, including more comfortable program operations, the capacity to handle larger volumes of data, and the ability to use several programs simultaneously. RAM modules come in various types and capacities, so the user must choose the module that is best suited to the user's computer.
Refresh Rate (Screen)	The number of times the screen is updated with a new display each second. If the screen seems to flicker, it may be because the refresh rate is too low.
Reinstall	Refers to reinstalling software, drivers, and other components into the computer. Also refers to reinstallation of the entire operating system. This operation is conducted when software or other components no longer work properly. <ul style="list-style-type: none"> ● In this computer, Windows can be completely reinstalled by using the Product Recovery CD-ROM.
Resolution (display)	A measure of the fineness of display output. The number of display points on a screen is expressed as "horizontal x vertical". A screen with a larger number of display points (a higher resolution) can show more information. <div style="text-align: center; margin-top: 10px;"> </div>
Right Click	Pressing the right button quickly on the mouse and releasing it. The menu that appears when a right click is executed differs depending on the application software, but in many cases a part of the menu bar (shortcut menu) is displayed.


◆ S

Safe Mode	<p>A startup mode used when a problem occurs in the computer and Windows does not start up properly. Icons and other images are displayed in magnified form on the screen, and a message indicates that the computer has been started up in Safe Mode. This means the computer has been started up using only a minimal amount of required functions, with most other extended functions inoperative. This allows for checking problem causes, as well as system recovery.</p> <ul style="list-style-type: none">● When starting this computer, hold down the F8 key when the [Panasonic] boot screen disappears, and release your finger when the Windows Advanced Options Menu is displayed.
Screen Saver	<p>A function by which the screen is turned off, or a video or still image is displayed when the computer is on but not in use for a specified period of time.</p>
Scrolling	<p>Moving the display contents up or down, or right or left, when all of the information displayed in a window (e.g., text or an image) cannot be contained in a single screen.</p>
SD Memory Card	<p>A memory card roughly the size of a postage stamp, with a unique ID. Enables recording of music and video data, and features a powerful copyright protection function. Can be used in a wide range of devices, including computers, digital cameras, and mobile phones, as well as for data exchange.</p> 
Setup Utility	<p>Software that operates on BIOS (→ page 168), and is used to set the computer's system configuration. The Setup Utility enables settings and changes related to the computer's operation and security levels.</p> <ul style="list-style-type: none">● On this computer, the Setup Utility can be accessed by pressing the F2 key immediately after the computer starts up.

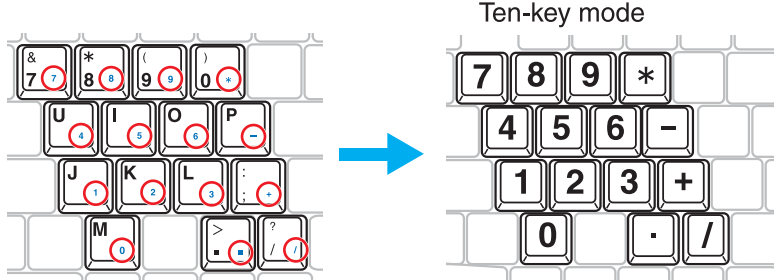

◆ S

<p>Simultaneous Display (Intel(R) Dual Display Clone)</p>	<p>Displaying the same screen on both the internal LCD (→ page 173) and a connected external display.</p> <ul style="list-style-type: none"> On this computer, the display can be switched between external display, internal LCD, and simultaneous display by pressing the Fn + F3 key. Simultaneous display cannot be used until Windows startup is complete (during Setup Utility, etc.) 
<p>SRAM – Static RAM</p>	<p>When rewriting data (“refresh”) to protect recorded contents (as in the case of DRAM) is not required, SRAM offers the advantage of higher data processing speed. An SRAM Card is a device that uses Static RAM.</p>
<p>Standby</p>	<p>A function that enables the current working conditions to be stored in memory when the power is turned off, so when the power resumes, the working conditions immediately before the power was turned off will be displayed on the screen. When the power supply is disconnected, the data stored in memory is lost, so always connect the AC adaptor or battery pack when the computer is in standby mode.</p>
<p>SSID</p>	<p>ESS-ID: → page 170</p>
<p>System Tray</p>	<p>Notification Area: → page 175</p>

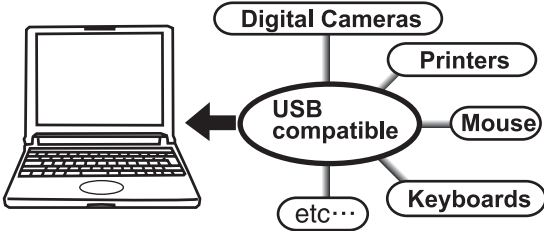
◆ T

<p>Taskbar</p>	<p>The segment at the bottom of the screen (at the time of purchase) where information on software currently being executed is displayed. When information for multiple programs is displayed in between [start] on the taskbar and the notification area (→ page 175), you can switch between programs by clicking on these information.</p> 
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 T

<p>Ten-key Mode</p>	<p>Part of the keyboard can be used to input numbers or calculation functions in the same arrangement as on a calculator. When this setting is deactivated, the keyboard returns to its regular input mode.</p> <ul style="list-style-type: none"> On this computer, ten-key mode can be activated by pressing the NumLk key. Press the NumLk key once more to deactivate the ten-key mode. (→ page 34)  <p style="text-align: center;">Ten-key mode</p>
<p>Title Bar</p>	<p>The segment at the top of the window showing the title of the application software, the name of the file currently open, and other information. The entire window can be moved by dragging (→ page 169) this bar with the mouse pointer.</p> 
<p>TKIP</p>	<p>Short for “Temporary Key Integrity Protocol.” The encryption standard considered the successor to WEP (Wired Equivalent Privacy). The WEP encryption key (WEP key) is fixed, but in the case of TKIP, the encryption key changes automatically at specific intervals, or at specific packet volumes. Changing the encryption key makes it more difficult to decipher the key, thus increasing the level of security.</p>
<p>Touch Pad</p>	<p>A pad used to move the cursor or select functions. Operates in the same way as a mouse. This computer features a unique round pad, which enables easy scrolling.</p>

◆ U

<p>USB – Universal Serial Bus</p>	<p>A standard for connecting peripheral devices (keyboards, printers, digital cameras, etc.) to computers. If the peripheral device is USB compatible, it can be used by connecting the USB connectors on the computer and the device via a USB cable. As a rule, USB devices can be connected or disconnected without turning off the computer's main power ("Hot plug").</p> <ul style="list-style-type: none"> ● This computer is compatible with USB2.0 devices. If USB2.0 peripheral devices are used, high-speed communication between the devices and the computer is possible. 
<p>User Account</p>	<p>Account: → page 167</p>

◆ V

<p>Virus</p>	<p>Computer Virus: → page 168</p>
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◆ W

<p>WEP – Wired Equivalent Privacy</p>	<p>An encryption technology used for Wireless LAN (below). To protect security during information transmissions, communication can only occur when the same network key (→ page 170) is registered to both parties involved in the communication.</p>
<p>Wireless LAN</p>	<p>A LAN (→ page 174) that conducts wireless communications using radio waves. Data is sent and received using common wireless frequencies. Because a LAN cable is not required, the computer can be located some distance from the Access Point (→ page 167). ESS-ID (→ page 170) or WEP (above) can be used to protect security during information transmissions.</p> <ul style="list-style-type: none"> ● This computer supports 802.11a+b+g Wireless LAN with Intel® Centrino Technology. Settings can be changed with the Intel® PROSet/Wireless Software.
<p>WPA – Wi-Fi Protected Access</p>	<p>WPA compensates for the weaknesses of WEP (above), to further increase security. The network key (→ page 170), including the IEEE802.1X user authentication standard, is automatically updated at fixed intervals.</p>

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