Panasonic®

Reference Manual

Personal Computer

Model No. CF-T5 Series

We recommend that this Reference Manual be printed.

Read Me First

● In this manual, "Microsoft® Windows® XP Professional Service Pack 2 with Advanced Security Technologies" and "Microsoft® Windows® XP Tablet PC Edition 2005" are indicated as "Windows" or "Windows XP" unless otherwise indicated.
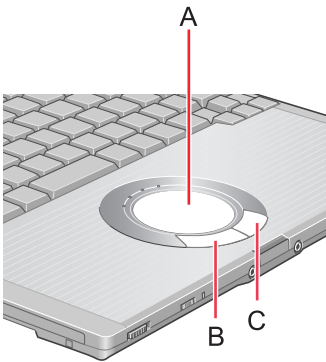
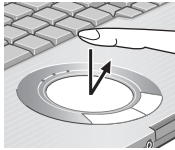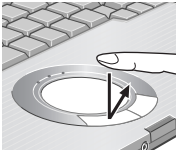## Illustrations and Terminology in this Reference Manual
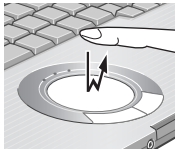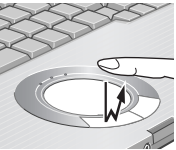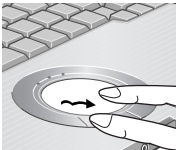
NOTE	NOTE provides a useful fact or helpful information.
CAUTION	CAUTION indicates a condition that may result in minor or moderate injury.
Enter	This illustration means to press the **Enter** key.
Fn+**F5**	This illustration means to press and hold the **Fn** key, then press the **F5** key. When using with the **Fn** key and the **Ctrl** key functions interchanged, read with the **Fn** key and the **Ctrl** 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.

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.
Scroll	Trace a circle around the Touch Pad. (➔ page 4)

NOTE

- You can change the speed of the double-click or the operations of mouse buttons by clicking [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse].

Scroll

There are two ways of scrolling with the Touch Pad: the Touch Pad utility, and the Virtual Scrolling Function. You cannot use both functions at the same time.
The Touch Pad utility is enabled in the default setting.

- The Touch Pad utility (below)
  You can scroll continuously by tracing a circle on the Touch Pad.

Vertical scroll	It can be used in the default setting.
Horizontal scroll	A setting is required to use the horizontal scroll.

- The Virtual Scrolling function ()
  You can scroll vertically (or horizontally) by tracing repeatedly in the desired direction.

Vertical scroll	The Virtual Scrolling 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 Scrolling function.

Using the Touch Pad Utility

You can scroll easily by tracing a circle on the Touch Pad.

NOTE

- External mouse drivers cannot be used at the same time as the Touch Pad utility. ()

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 notification area, and click [Settings].

When 🔵 is not displayed:
Click [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings].
If a message appears indicating that the Touch Pad utility is not running, click

[start] - [All Programs] - [Panasonic] - [Touch Pad utility], and display 🔵 .

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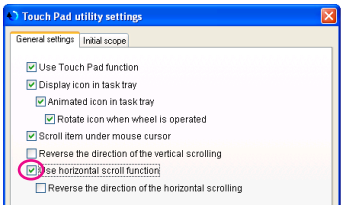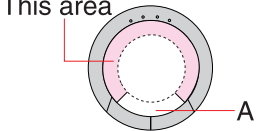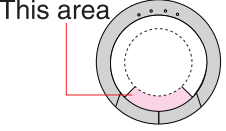
2 Display the scrollable screen.

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

4 Remove your finger from the pad, then place your finger in the appropriate area to begin scrolling.
The finger position on the Touch Pad can be changed using the Touch Pad utility. (➔ page 6) This explanation assumes in the default setting.
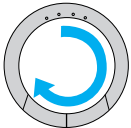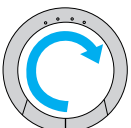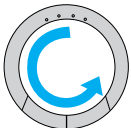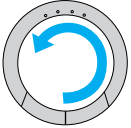
	Vertical scroll[1]	Horizontal scroll
Position where finger is placed	This area ... A	This area ...
Icon on the notification area	When you place your finger on the Touch Pad, the icon changes.	
	🔵 ➔ 🟡	🔵 ➔ 🟡

[1] If the horizontal scroll function has not been enabled, the segment shown in the figure above (A) is also included in the area to begin vertical scrolling.

5 Trace a circle around the Touch Pad without lifting your finger from the pad.
The scroll direction can be changed using [Reverse the direction of the vertical scrolling] or [Reverse the direction of the horizontal scrolling] in the Touch Pad utility. (➔ page 6)

	Vertical scroll	Horizontal scroll[*2]
Trace clockwise	To scroll down	To scroll right
Trace counter-clockwise	To scroll up	To scroll left

[*2] When the horizontal scroll function has not been enabled, any scrolling will be vertical scrolling.

- The screen will not scroll if you trace toward the center of the Touch Pad.
- 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.
- For example, on a screen that will only scroll horizontally, even if you execute a vertical scroll, the screen will scroll horizontally.

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.
- 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.**

■ Change the settings for the Touch Pad utility

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

When 🔵 is not displayed: ➔ page 5, step *1*-①

2 **Change the settings.**

● General settings

Use Touch Pad function (On/Off)	If you add a check mark, you can use the Touch Pad function (screen scroll). If you remove the check mark, the Touch Pad function will be disabled, and 🖱️ will be displayed on the notification area.
Display icon in task tray (On/Off)	If you add a check mark, the icon will be displayed in the notification area.
Animated icon in task tray (On/Off)	If you add a check mark, the icon will change while scrolling and the finger located within the region which starts scrolling.
Rotate icon when wheel is operated (On/Off)	If you add a check mark, the icon will rotate while you are scrolling.
Scroll item under mouse cursor	If you add a check mark, scroll the region where the mouse cursor is located within the active window. If you remove the check mark, scroll the selected region within the active window. In either case, if the mouse cursor is outside the active window, scroll the selected region.
Reverse the direction of the vertical scrolling	You can change the direction in which the screen scrolls when you trace the Touch Pad clockwise. • When check mark is added: Upwards • When check mark is removed: Downwards
Use horizontal scroll function (On/Off)	If you add a check mark, you can use the horizontal scroll.
Reverse the direction of the horizontal scrolling	When you add a check mark for [Use horizontal scroll function], you can change the direction in which the screen scrolls when you trace the Touch Pad clockwise. • When check mark is added: Scroll left • When check mark is removed: Scroll right
Scroll speed setting	You can change the scroll speed.
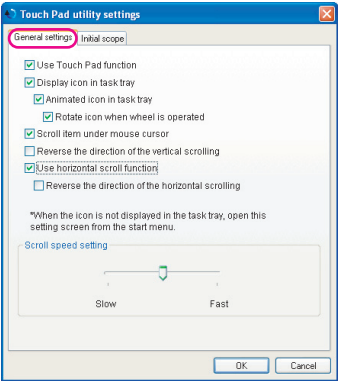
● Initial scope

A. Width of the initial scope	By dragging the inner circumference of the starting area, you can change the width of the initial scope (A) in five stages. You can also change the width by sliding the [Initial scope] slide bar.
B. Vertical and horizontal scroll initial scope	You can change the initial scope (B) by dragging border of the vertical and horizontal scroll initial scope. The maximum starting area for the horizontal scroll is half the circumference.
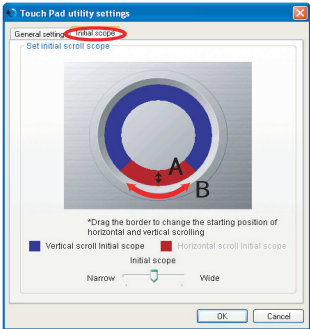
3 **Click [OK].**

Using the Touch Pad

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 notification area, and click [Settings].**

When is not displayed:➔ page 5, step *1*-①

2 **Remove a check mark from [Use Touch Pad function] in [General settings], and then click [OK].**

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

4 **Click the device name (e.g., Synaptics TouchPad) in [Devices], 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

- 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].
    You can uninstall the Touch Pad utility using the following procedure.
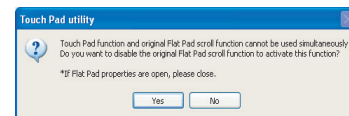
    ① Click or on the notification area, and then click [Exit].
    ② Click [start] - [Control Panel] - [Add or Remove Programs] - [Touch Pad Utility], and then click [Change/Remove] to remove the program.
- To begin using the Touch Pad utility again:
  ① Click [start] - [Control Panel] - [Add or Remove Programs].
    When [Touch Pad Utility] is not displayed, perform the following procedures from step ②.
    When [Touch Pad Utility] is displayed, perform the following procedures from step ③.
  ② Input [c:\util\touchpad\setup.exe] in [start]-[Run] and then click [OK].
    Follow the on-screen instructions.

③ Conduct steps *3* to *4* above.
④ Click [Virtual Scrolling], remove a check mark from [Enable vertical scrolling] and [Enable horizontal scrolling], then click [OK].
⑤ Click [OK] at [Mouse Properties].
⑥ Click [start] - [All Programs] - [Panasonic] - [Touch Pad utility settings].
⑦ Click [General settings], add a check mark for [Use Touch Pad function], then click [OK].

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 (e.g. Synaptics TouchPad) in [Devices], 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 to the [Maximum] position, you can prevent the cursor from moving unintentionally.
  • By dragging slide bar to the [Minimum] position, you can enable the cursor to move even with a light touch of the palm on the Touch Pad.

■ Touch Sensitivity

● When operating the Touch Pad, if your finger touches the Touch Pad, unintentionally causing the cursor to move; or if the cursor does not move even when you move your finger on the Touch Pad, adjust the sensitivity using the "Touch Sensitivity".
  • By dragging slide bar to the [Heavy Touch] position, the cursor will only move with a strong touch on the Touch Pad.
  • By dragging slide bar to the [Light Touch] position, the cursor will move even with a light touch on the Touch Pad.

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).
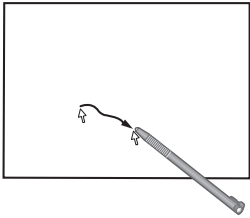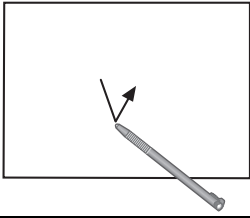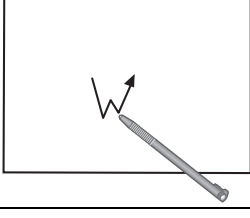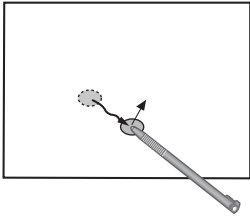
Using the Touch Pad

- 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 15)

| CAUTION |

● When using the stylus to input, avoid touching the screen with your hands, etc. at the same time. Failure to do may result in input errors.

Functions	Operation
Moving the cursor	The cursor is moved to the location pointed by the stylus.
Clicking (Tapping)	One tap
Double-clicking (Double-tapping)	Two quick taps
Dragging	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.

■ To right-click

<Only for model with Windows XP Professional>

● 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 accidentally change the icon to 🅁, click 🅁 to return to 🕐.

● When needed, the above settings can be configured using the following procedure.

 ① To Display [Touch Panel Configuration] screen.
 Click [start] - [All Programs] - [Fujitsu Touch Panel (USB)] - [Touch Panel Configuration].

 ② Make necessary changes and click [OK].

 • For more information, click ? at the upper right corner.

<Only for model with Windows XP Tablet PC Edition>
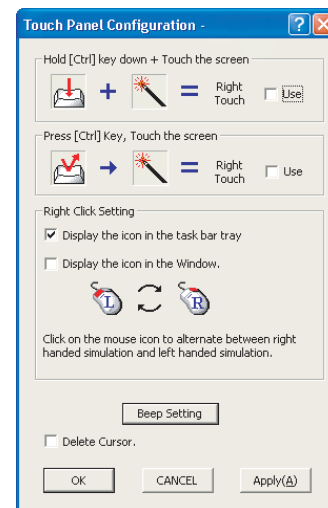
 ① Touch the item you want to right-click and continue touching until 🔄 is completely displayed.

 ② Move the stylus away from the surface of the display.

 Moving the stylus away from the surface of the display before 🔄 has not completely displayed will result in a left click.

- When needed, the above settings can be configured using the following procedure.
  ① Click [start] - [Control Panel] - [Printers and Other Hardware] - [Tablet and Pen Settings] - [Pen Options].
  ② Click [Press and hold] in [Pen Action] and then click [Settings].
  ③ In [Press and Hold Settings], change the settings and then click [OK].
  For more information, refer to "Help" in the bottom right corner of the [Press and Hold Settings].

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 cannot be pointed correctly with the stylus, be sure to perform [Calibration]. (➔ page 15)
- 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 does not work in the Setup Utility, in the "Full Screen" of [Command Prompt], or in Recover Pro (➔ page 78).

NOTE

- Do not move the stylus too quickly. If the stylus moves too quickly, the cursor may be unable to follow its movement.

Calibrating the Touchscreen

When you cannot point correctly with the stylus (include), calibrate the Touchscreen by following the steps below.

NOTE

● Rotate the display to 0 degree before performing the calibration. (➜ page 17)

\<Only for model with Windows XP Professional\>
Calibrate the Touchscreen for each account created.

1 **Run [Touch Screen Calibration Utility].**
Click [start] - [All Programs] - [Fujitsu Touch Panel (USB)] - [Touch Screen Calibration Utility].

2 **Touch the 12 "+" target marks sequentially with the stylus, and then press Enter.**
Keep touching each "+" target mark until blinks.

3 **Touch [Save & Exit].**

\<Only for model with Windows XP Tablet PC Edition\>
■ If an administrator calibrates the Touchscreen

If an administrator performs calibration once, other administrators will not need to do even if multiple user accounts are created. This does not need to be performed two times or more for one computer. However, calibrate again after you reinstall the software.

1 **Click [start] - [Control Panel] - [Other Control Panel Options] - [Tablet Calibration].**

2 **Touch the 9 "+" target marks sequentially with the stylus.**

3 **Click [OK] and restart the computer.**

■ If each user calibrates the Touchscreen

1 **Click [start] - [Control Panel] - [Printers and Other Hardware] - [Tablet and Pen Settings].**

2 **Set the following with [Calibration] in [Settings].**
① Select [Landscape] and click [Calibrate].

② Touch the 4 "+" target marks sequentially with the stylus.
③ Click [OK].
④ Select [Portrait] and click [Calibrate].
⑤ Repeat steps ② and ③ above.

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.

Display Rotation

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 Ctrl + Alt + R.**

Each time this operation is performed, the screen display switches between the landscape mode (0 degree) and the previously set angle (➜ page 18).

■ 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 degree)

3 **Click [OK].**

Display Rotation Tool	
Key Binding	
Rotate: Alt + Ctrl + [R ▼]	— A
Rotate Angle	
Angle : [180 ▼]	— B
OK Cancel	
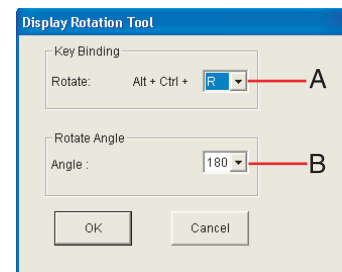
NOTE

● If you shut down Windows when you rotate the display, the Touch Pad and touchscreen do not match the display angle next time you start up Windows for a few seconds.

● The Virtual Scrolling function, the Touch Pad Zoom function, and the Data Zoom function may not work while the display is rotated.

● The Touch Pad and the touchscreen may not match the display angle if you change display properties or Intel(R) GMA Driver for Mobile when you rotate the display. (➔ page 88)

● The display cannot be rotated when the [Command Prompt] is set to "Full Screen" or in Recover Pro (➔ page 78).

● 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 **Ctrl**+**Alt**+**R** 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 motion 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 degree.

● 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].

Display Rotation

● Exit the tool with the following procedure:
　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].

Key Combinations

NOTE

- Do not repeatedly press the keys in quick succession.
- Do not use the key combinations together with Touch Pad (external mouse), touchscreen or other key operations.
- Do not use the key combinations before you log on to Windows. Wait until the hard disk drive indicator 🖴 turns off. On the Setup Utility screen, you can use the key combinations of **Fn+F1**, **Fn+F2** and **Fn+F3**.
- The key combinations may not work with some applications.
- The pop-up icon appears after logging on to Windows. It may not appear in some application conditions (e.g., when [Command Prompt] is set to "Full Screen").

Key	Functions	Pop-up Icon
Fn+F1 **Fn+F2**	**LCD brightness** (**Fn+F1**= down / **Fn+F2**= up) You can select a different brightness level setting for when the AC adaptor is connected and for when it is not connected. (In the default setting, the LCD brightness is set to be darker when the AC adaptor is not connected.) **NOTE** ● The brightness of the power indicator changes in keeping with the brightness level of the internal LCD.	
Fn+F3	**Display switching (➜ page 50)** (When an external display is connected) Internal LCD → Simultaneous display → External display **CAUTION** ● Do not press any keys until the display has finished switching. ● Do not use this function: 　• When an external display is not connected. 　• When playing motion video such as DVD or MPEG. 　• When using the Extended Desktop. 　• When showing a game screen such as pinball.	—

Key	Functions	Pop-up Icon
Fn+**F4**	**Speaker on/off** **NOTE** ● Beeps do not sound if you turn off the speaker sound.	OFF (MUTE) ON
Fn+**F5** **Fn**+**F6**	**Volume** (**Fn**+**F5**= down / **Fn**+**F6**= up)	
Fn+**F7**	**Activate standby (→ page 35)**	—
Fn+**F9**	**Remaining battery power**	→ page 24
Fn+**F10**	**Activate hibernation (→ page 35)**	—
Fn+**NumLk**	**Run the ScrLk (Scroll Lock) function** The functions differ depending on the application software.	—
Fn+**Home**	**Lead to the last page or move the cursor to the end of the current line (End)**	—
Fn+**↑**	**Move the back page (PgUp)**	—
Fn+**↓**	**Move the next page (PgDn)**	—

Hotkey Settings

You can make two settings:
- **Fn key lock**
  When you press **Fn**, the key is locked (pressed-down) until you press another key. Use this when pressing difficult key combinations.
- **Pop-up icon on/off**

1 Start up the Hotkey Settings.
Click [start] - [All Programs] - [Panasonic] - [Hotkey Settings].

2 Make the settings.
[Use Fn key lock]
- When using an **Fn** key combination
① Press **Fn** once. (Locked)
② Press another key. (Lock released)
- When using successive **Fn** key combinations
① Press **Fn** twice. (Locked)
② Press another key.
  Fn key remains locked until you press **Fn** again.

[Notification]
[Make sounds when Fn key is pressed][*1]
[Show status on screen]: Displays the Fn key status on the notification area.
- 🔒: **Fn** is locked.
- 🔓: **Fn** is not locked.

[Disable popup]
The Pop-up icon will not be displayed.

3 Click [OK].

NOTE

- You can have different settings for each user.

---

*1 If the speakers are muted, beeps do not sound.

Battery Power

Tips about the Battery Pack

■ [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.
   See [Important Tips] using one of the following methods.

   • Double-click ![Important Tips icon] on the desktop.
   • Using the [start] menu.
     ① Click [start] - [All Programs] - [Panasonic].
     ② Select [On-Line Manuals] or [Battery], and click [Important Tips].

Checking the Battery Status

Battery Indicator 🔋	Battery Status
Not lit	Battery pack is not connected or no charging.
Orange light on / flashing[*1][*2]	Charging in progress. If [Battery Charging Indicator] in the [Main] menu of the Setup Utility is set to [Flashing], the indicator will alternately become lighter and darker (Flashing) (➜ page 69).
Green[*1]	Fully charged.
Red	The remaining battery power is approximately 9% or less.
Blinking red[*1]	Battery pack or charging circuit may not be working properly. Quickly save your data and power off your computer. Remove the battery pack and disconnect the AC adaptor, then connect them again. If the problem persists, contact your technical support office. The battery pack or charging circuit may be defective.
Blinking orange[*1][*2]	The battery cannot be charged temporarily due to the following reasons: ● Its internal temperature is out of the acceptable range. ● The power supply is not enough because software applications or peripheral devices are consuming a large amount of power.
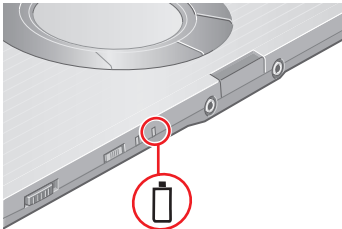
*1 When the AC adaptor is connected.
*2 The orange display light has three modes: on, flashing and blinking. Note the difference between flashing and blinking.

NOTE

- Once the battery is fully charged, the computer performs recharging only when the remaining battery power becomes less than approximately 95% (75% when Economy Mode (ECO) is enabled), so overcharging is avoided.

Checking the Remaining Battery Power

There are three methods to check the remaining battery power.

■ To check the remaining battery power on the screen

(After logging on to Windows)

1 **Press Fn+F9.**

Display	Condition
100%	When the battery pack is inserted (example)
-- %	When the battery pack is not inserted.
ECO	[ECO] is displayed when Economy Mode (ECO) is enabled.

■ To check the remaining battery power and remaining time using the Windows Power Meter

(After logging on to Windows)

1 **Double-click on the notification area when the AC adaptor is not connected.**

- The battery display may not correspond to the actual remaining battery power in the cases as below. To correct the display, perform the Battery Recalibration (➔ page 28).
  - The battery indicator remains red.
  - The battery indicator lights orange and the display shows 99% for a long time (79% when Economy Mode (ECO) is enabled).
  - Low battery warning appears soon after a short time of use.
    This can occur when the computer is in standby for a long time without power supply from the AC adaptor.
- The battery display may not be the same as that of [Power Meter] in [Power Options Properties]. This is not a malfunction.

■ To check the remaining battery power using the battery indicator

(When the power is off or in standby or hibernation)

1 **Close the display and confirm that the latch is locked.**

2 **Disconnect the AC adaptor.**

3 **Slide the power switch (A) and confirm the battery indicator (B).**
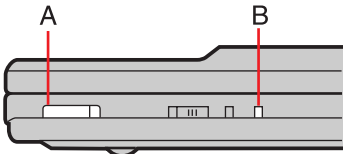
Battery Indicator (B)	Remaining Battery Power
Red	0 % - 4 %
Blinking orange	5 % - 19 %
Orange	20 % - 49 %
Blinking green	50 % - 94 %
Green	95 % - 100 %

Computer behavior with low battery

The default settings are as follows.

When the remaining battery power becomes 10% [Low battery alarm]	When the remaining battery power becomes 5% [Critical battery alarm]
● Displays a message that the remaining battery power is low.	● Displays a message that the remaining battery power is low, and then the computer enters hibernation.
↓	↓
Charge the battery.	Connect the AC adaptor or replace the battery to start up the computer.
● Connect the AC adaptor immediately. If you do not have the AC adaptor, exit the running programs and Windows, then 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.	● Connect the AC adaptor and charge the battery. ● If you have a fully charged spare battery, turn off the computer, replace the battery and turn the computer on again. When the computer enters hibernation with the battery down and you resume the operation without charging the battery, Windows may not start up normally or the alarm function may not operate normally from then on.
Do not replace the battery pack when the computer is in standby.	

Battery Power

We recommend that you become familiar with alarm settings to become aware when battery power is low.

    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 to be completed (assuring data is saved) when the remaining battery power is low.
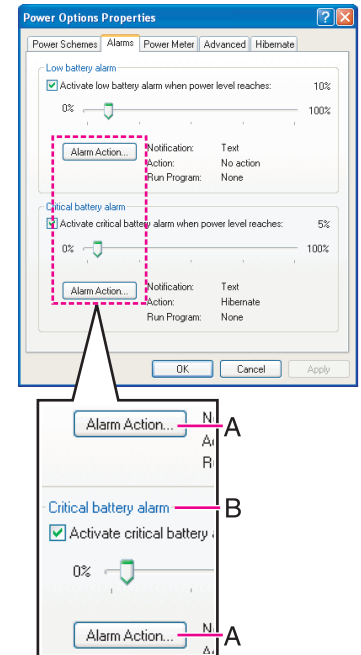
Correcting the Battery Display (Battery Recalibration)

The "Battery Recalibration" function measures and memorizes the battery capacity. To correct the battery display, use this function to fill the battery and then discharge it completely. Perform the procedure at least once immediately after purchasing the computer. Normally the interval of "Battery Recalibration" is three months. The battery display may not be correct when the battery pack deteriorates after a long time use. In this case, perform the procedure again.

1 **Connect the AC adaptor.**

2 **Close all the applications.**

3 **Perform "Battery Recalibration".**
  ① Click [start] - [All Programs] - [Panasonic] - [Battery] - [Battery Recalibration].
  ② When the confirmation message appears, click [Start].
    ● Frequent recalibration of the battery can degrade the battery. A caution message appears when the "Battery Recalibration" is performed at the shorter interval than approximately a month. In this case, cancel the "Battery Recalibration".
  ③ When the message requests shut down of Windows, click [Yes].
    The "Battery Recalibration" starts.
    After the battery pack is fully charged, discharging starts. When the discharging is completed, the power goes off automatically.
    After the "Battery Recalibration" is finished, normal charging starts.

CAUTION

● Do not close the LCD while "Battery Recalibration" is being executed.

NOTE

● The temperature range should be 10°C to 30°C {50°F to 86°F}.
● The "Battery Recalibration" may take a long time due to the large battery capacity. This is not a malfunction.
  • Full charge: Approximately 5 hours [MAX]
  • Complete discharge: Approximately 7 hours
● "Battery Recalibration" does not increase the battery's capacity. If "Battery Recalibration" is executed frequently, deterioration of the battery may result.
● If you have two or more battery packs, perform the "Battery Recalibration" for each battery pack.
● If the computer is turned off during the "Battery Recalibration" (e.g., due to power failure, or accidental removal of the AC adaptor and battery pack), the "Battery Recalibration" will not be completed.
● You can also perform the "Battery Recalibration" with the following procedure.
  ① Restart the computer.

② Press **F9** while the [Panasonic] boot screen is displayed just after the computer starts the startup procedure.
③ When the remaining battery power is displayed, press **Enter**.
④ Follow the on-screen instructions.

Switching between Long Battery Life and Extended Operating Time (Economy Mode (ECO) Setting Utility)

The battery pack is a consumable item, and deteriorates gradually each time it is used.
Use effective switching of the Economy Mode (ECO) to reduce battery pack deterioration, and enable the battery pack to last a little longer. Switch the Economy Mode (ECO) in accordance with the way you use your computer.

	Economy Mode (ECO)	
	Disabled	Enabled
Recommended usage	Mobile Using your computer while on the move	Desktop AC adaptor is connected most of the time
Operation time	Extended	Normal
Lifetime of battery	Normal	Extended

● Economy Mode (ECO) disabled:
  In the default setting, the Economy Mode (ECO) is set to "Disabled."
  Charge the battery to 100% (fully charged). We recommend that you disable the Economy Mode (ECO) if you use the battery pack frequently.
● Economy Mode (ECO) enabled:
  Stop the battery recharging at 80% of fully charged. By stopping the battery recharging before 100% (fully charged), the burden on the battery is reduced and deterioration is prevented, so the lifetime of battery pack will be extended. The computer will not operate as long on the battery as when Economy Mode (ECO) is disabled.
  If you often use the computer with the AC adaptor connected, and if you want to prevent deterioration of the battery pack, we recommend that you enable the Economy Mode (ECO).

Switching the Economy Mode (ECO)

1 **Right-click either [icon](Disable) or [icon](Enable) on the notification area.**

If [icon] or [icon] is not displayed, click [start] - [All Programs] - [Panasonic] - [Battery] - [Economy Mode(ECO) Setting Utility].

2 **Click [Economy Mode(ECO) Enable] or [Economy Mode(ECO) Disable].**

	[Economy Mode(ECO) Enable]		[Economy Mode(ECO) Disable]
	Remaining battery power: 81% or more.	Remaining battery power: 80% or less.	
Economy Mode (ECO) Indicator	Blink (During discharge)	Light	off

● If [Economy Mode(ECO) Enable] is set and remaining battery power is 81% or more
  The battery will discharge until the remaining battery power is 80% or less.
① When the confirmation message is displayed, read the message on the screen carefully, and click [OK].
② Use the computer with the AC adaptor unplugged until the remaining battery power is 80% or less.
  When the remaining battery power falls to 80% or less, battery discharge ends, and the Economy Mode (ECO) indicator lights.
  If you continue using the computer with the AC adaptor, it may take about a day until the remaining battery power falls to 80%.
③ When the confirmation message is displayed, read the message on the screen carefully, and click [OK].
④ Connect the AC adaptor.
  If you do not click [OK] at step ③, the computer will go into forced standby after about three minutes to prevent the remaining battery power from dropping.
    • The computer will go into forced standby even while application software is running or data is being sent or received, or when the hard disk is being accessed, so be sure to connect the AC adaptor.

NOTE

● After disconnecting the battery pack, if you connect it to a computer on which the Economy Mode (ECO) settings differ, the battery will either recharge or discharge until the next time the computer is turned on, giving priority to the battery pack setting on that computer.

Replacing the Battery Pack

The battery pack is a consumable item so the replacement will be necessary (CF-VZSU37U). If the battery operation time becomes noticeably short and not recovered even after recalibrating the battery, replace with a new battery.

CAUTION

● The battery pack is not charged when you first purchase it. Be sure to charge it before using for the first time. Charging starts automatically when the AC adaptor is connected to the computer.
● Use only the specified battery pack (CF-VZSU37U) with your computer.

● In standby, do not remove/replace the battery pack. Otherwise your data will be lost and the computer may be damaged.

---

1 **Turn off the computer.**
   ● Do not use the standby function.

2 **Turn your computer over and remove/insert the battery pack.**
   ● To remove
   ① Slide the left latch (A) to the unlocked position (🔓).
   ② Slide and hold the right latch (B) to the unlocked position (🔓), and hold the center of the battery pack and push out in parallel with the bottom surface of the computer.
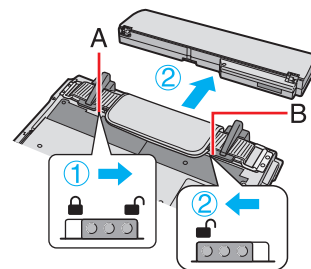
   ● To insert
   ① Slide the left latch (A) to the unlocked position (🔓).
   ② Insert the battery pack in the correct direction until it securely fits the connector.
   ③ Slide the left latch (A) to the locked position (🔒).
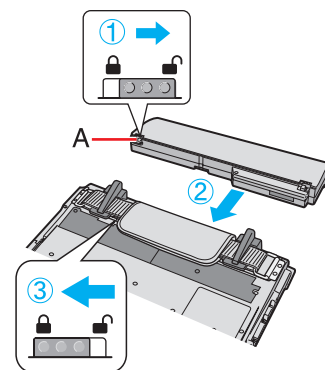
CAUTION

● Make sure the latch is securely locked, otherwise the battery pack may fall when you carry the computer.
● Do not remove the battery pack forcibly when the latch is locked. Doing so may damage the battery pack.
● Do not apply pressure from the top of the closed display when the battery pack has been removed. Doing so may damage the LCD.

Computing on the Road

In the default setting, [Power schemes] is set to [Panasonic Power Management], but you can reduce power consumption using the following method.
When using the battery, the computer can be used for a longer period of time.
Power conservation effects can be achieved even when the AC adaptor is connected.

■ 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].
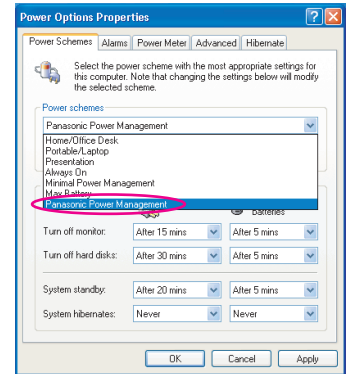
■ Adjust the brightness (darker) with the Fn+F1 key (➜ page 20)

■ Leave your computer off when not in use

■ Memory/Video Power Save

● You can select whether to put priority on saving power or on processing performance. Set [Memory/Video Power Save] in the [Main] menu of the Setup Utility.
In the default setting, it is set to [Max Performance].

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

■ Turn off the wireless LAN when not in use (➜ page 64)

■ Using display power saving settings (Power Scheme Settings)

● Intel(R) Display Power Saving Technology makes it possible to reduce power consumption when operating with the battery by lowering the display luminance while maintaining a certain apparent LCD brightness by adjusting the image contrast, color and other settings. In some cases, however, the images on the display may become momentarily distorted, use the setting in accordance with computer usage conditions.
We recommend removing the check mark from [Intel(R) Display Power Saving Technology] when fine adjustment of the image or color is necessary, or when performing advanced image editing using image editing application software.

● Setting method:
   ① Click [start] - [Control Panel], and from the [See Also] area, click [Other Control Panel Options], and then click [Intel(R) GMA Driver for Mobile].
   ② Click [Display Settings] - [Power Settings].
   ③ Click [Intel(R) Display Power Saving Technology] to add the check mark, set the slide bar (A) to the [Maximum Battery] side, and click [OK]. The slide bar can be adjusted in six steps, from [Maximum Battery] to [Maximum Quality].

A
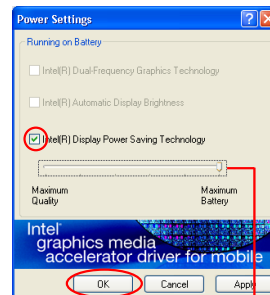
■ Disable the Wake up from LAN Function (➜ page 60)

■ 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.

NOTE

● To extend the battery operation time, activate the power saving function of the USB2.0 Root Hub.
In the default setting, the power saving function is activated.
When the power saving function is deactivated (➜ page 54), remove the check mark from [Allow the computer to turn off this device to save power]. The battery running time will be reduced to some extent.

Standby or Hibernation Functions

Starting Up Your Computer Quickly

The standby or hibernation functions allow you to shut off the computer without closing programs and documents. You can quickly return to the programs and documents that you were working on before standby or hibernation.

Function	Data is saved to	Recovery time	Power supply
Standby	Memory	Short	Required. (If power is not supplied, all data will be lost.)
Hibernation	Hard disk	Rather long	Not required. (However power is slightly consumed to keep the hibernation.)

Precautions

- Connect the AC adaptor if the computer will be in standby for a long period of time. If you cannot use the AC adaptor, use hibernation instead.
- When carrying your computer, turn the computer off without using the standby or hibernation function. When the computer has been in standby for a specific period of time and the computer automatically enters hibernation depending on the setting, the computer will turn itself on temporarily. (In the default setting, [System hibernates] is set to [Never].)
- Using standby or hibernation repeatedly may cause malfunction of the computer. To stabilize computer operation, restart Windows regularly (about once a week) without using standby or hibernation.
- Save the necessary data.
- Close files you have opened from removable disks and network drives.
- The password you set in the Setup Utility is not requested at resuming. You can use the Windows password for security in standby or hibernation.
    ① Click [start] - [Control Panel] - [User Accounts], and select the account.
    ② Click [Create a password] and set the password.
    ③ Click [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Advanced], and add the check mark in [Prompt for password when computer resumes from standby].
- Do not enter standby or hibernation in the conditions below, otherwise the data or file may be corrupted, standby or hibernation may not work, or malfunction may occur in the computer or the peripheral devices.

    • When any of the hard disk drive indicator 🖴 and the SD Memory Card indicator 🆂🅳 is on, (accessing drive or card).
    • When playing/recording audio files or displaying motion video such as MPEG files.
    • When playing a DVD-Video.
    • When writing to a disk.
    • When using communication software or network function.
    • When using peripheral devices.
      (If peripheral devices fail to work normally, restart the computer.)

● When the Wake up from LAN Function is enabled (the function is enabled in the default setting), battery consumption will increase while in standby or hibernation. (➔ page 60)

Setting Standby or Hibernation

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:] / [When I press the power button on my computer:], and then select [OK].

Entering/Resuming from Standby or Hibernation

■ To enter standby or hibernation

1 **Close the display, or slide the power switch (A) until a beep[*1] sounds.**
Standby: The power indicator (A) blinks green.
Hibernation: The power indicator (A) goes off.
● You can alternatively use the Windows menu to enter standby or hibernation. To enter standby, click [start] - [Turn Off Computer] - [Stand By]. To enter hibernation, click [start] - [Turn Off Computer], then press and hold **Shift** and click [Hibernate].
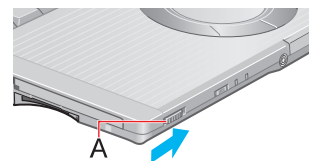
CAUTION

While the computer is entering standby or hibernation
● Do not:
  • Touch the keyboard, Touch Pad, touchscreen (only for model with touchscreen), or power switch.
  • Use an external mouse or other peripheral device.
  • Connect or disconnect the AC adaptor.
  • Operate the wireless switch.
  • Close or open the display.
  • Insert and remove the SD Memory Card.
  Wait until the power indicator blinks green (standby) or goes off (hibernation).
● It may take one or two minutes to enter standby or hibernation.
● At the beep[*1], immediately release the power switch. After releasing the switch, do not operate it until the power indicator blinks or goes off. If you slide and hold the power switch for longer than four seconds, the computer will forcibly

shut down and unsaved data will be lost even if you have set [Shut down] in [When I press the power button on my computer:] (➔ page 35 "Setting Standby or Hibernation").

*1 If the speakers are muted, beeps do not sound.

In standby or hibernation
- Do not attach or remove a peripheral device. Doing so may cause malfunction.
- Power is consumed in standby. Power consumption may increase when a PC Card is inserted. When power is exhausted, the data retained in memory will be lost. Connect the AC adaptor when using the standby function.

■ To resume from standby or hibernation

1 **Open the display, or slide the power switch (A).**

A
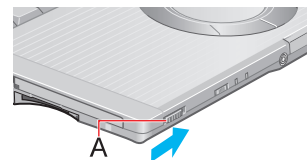
CAUTION

- Do not perform the following operations until resuming is complete. After the display is resumed, wait approximately 15 seconds (normally) or 60 seconds (when the computer is on a network).
  - Touch the keyboard (except for password input), Touch Pad, touchscreen (only for model with touchscreen), or power switch.
  - Use an external mouse or other peripheral device.
  - Connect or disconnect the AC adaptor.
  - Close or open the display.
  - Shut down or restart Windows.
  - Enter standby or hibernation (Wait approximately one minute).
  - Operate the wireless switch.
  - Insert and remove the SD Memory Card.

Security Measures

You can set the password and/or enable/disable some functions for security purpose.
- Other security measures
  - SD Security (➔ page 44)
  - Embedded Security (TPM) (➔ page 71): For further information, refer to the *Installation Manual* of "Trusted Platform Module (TPM)".

Setting the Supervisor Password/User Password

Set the Supervisor Password before setting the User Password.

1 **Start up the Setup Utility (➔ page 68).**

2 **Select [Security].**

3 **Select [Set Supervisor Password] or [Set User Password], and press Enter.**

4 **Enter your password in [Enter New Password] and press Enter.**
- When the password has been set, you need to enter your password in [Enter Current Password] and press Enter.
- To disable the password, leave the input field empty and press Enter.

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

6 **In [Setup Notice], press Enter.**

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

CAUTION
- Do not forget your password. If you forget your Supervisor Password, you will not be able to use your computer. Contact technical support office.
- When running the Setup Utility, do not leave and go away from your computer even for a short time, since other people may set or change the password.

NOTE
- The password will not be displayed on the screen.
- You can use up to 32 alphanumeric characters (including spaces).
  - The case (upper/lower) is ignored.
  - Use only the upper horizontal row of numeric keys to input your password.
  - You cannot use Shift and Ctrl to input a password.
- Disabling the Supervisor Password also disables the User Password.

Preventing Your Computer from Unauthorized Use

You can set a start-up password to prevent your computer from unauthorized use.

1 **Set the password (➜ page 37), and select [Enable] in [Password on boot] in the [Security] menu of the Setup Utility (➜ page 71).**

NOTE

- If the Supervisor Password or User Password has been set, the password input screen will be displayed on starting-up of the Setup Utility even though [Password on boot] is set to [Disable].

Preventing Your Hard Disk Data from Being Read or 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. To be able to read/write data on the original computer, the Setup Utility settings must be the same as when 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.)

1 **Select [Enable] in [Hard Disk Lock] in the [Security] menu of the Setup Utility (➜ page 71).**

CAUTION

- When starting up the computer, if the message [Hard disk access is prohibited by "Hard Disk Lock"] appears, run the Setup Utility, and change the settings to match the details when [Hard Disk Lock] was set.
- You cannot use the hard disk lock function without setting the Supervisor Password. Set the Supervisor Password beforehand (➜ page 37).
- When you have your computer repaired
  - Contact technical support office.
  - Before sending back the computer, be sure to set the [Hard Disk Lock] to [Disable].

NOTE

- The hard disk lock function works with the built-in hard disk. It does not work with the external hard disk.

PC Cards

You can insert the PC Card Type I (3.3 mm) or II (5.0 mm) to the PC Card slot.

<div style="background:#1a3a8f;color:white">NOTE</div>

- The following types of card are not supported:
  PC Card Type Ⅲ, ZV card, SRAM card, FLASH ROM card (excluding ATA interface type), and other cards that require 12V of operating voltage.

Inserting/Removing the Card

<div>CAUTION</div>

- Do not remove a PC Card while your computer is in the standby or hibernation.
- Do not forcefully insert the card. Depending on the shape of the card, parts of the card may remain outside after insertion. The PC Card slot or the card may be damaged or become stuck if it is forced in.
- 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.

■ To insert the card

1 **Insert the PC Card with the label side up until it securely fits in the slot.**
- For further information, refer to the instruction manual of the card.

2 **After the card is inserted, bend the eject button (A).**
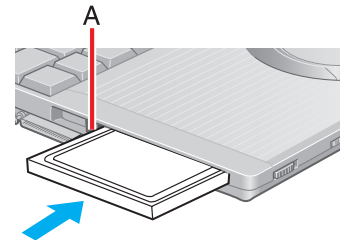
■ To remove the card

1 **Disable the card function.**

① Double-click 🖳 on the notification area and select the card, then click [Stop].
② Follow the on-screen instructions.
- This step is not necessary when removing the card after turning off the computer.

2 **Remove the card.**

① Raise the bent part of the eject button.
② Press the eject button so the card comes out of the slot.
③ Draw the card straight out.
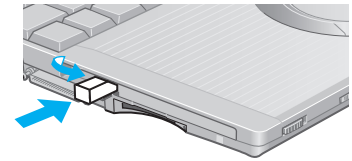
NOTE

- Check the card's specification to prevent the total operating current from exceeding the allowable limit. Otherwise malfunction may occur.
  Allowable Current: 3.3 V: 400 mA, 5 V: 400 mA
- After repeating insertion and removal, some types of card will not be recognized. In this case, restart the computer.
- If the computer freezes after resuming from standby or hibernation, remove and reinsert the card. If the problem persists, restart the computer.
- When a card is inserted, power consumption increases. Remove the card when it is not in use, especially when operating by battery power.
- To connect peripheral devices (SCSI, IEEE1394, etc.) using a PC Card, follow the steps below (one example).
  ① Connect the peripheral device to the card.
  ② Turn on the power of device.
  ③ Insert the card until it securely fits in the slot.

SD Memory Card

SD Memory Card Information

The SD Memory Card slot on this computer only accepts SD Memory Cards. It is not compatible with MultiMedia cards and SDHC Memory Card, so do not try to insert these cards. If you want to use a MultiMedia card or SDHC Memory Card, you will require a PC Card adaptor (sold separately) or USB reader/writer (sold separately) that is compatible with MultiMedia cards or SDHC Memory Cards.

● The SD Memory Card has a copyright protection function which is compatible with content on-demand services on the Internet, etc.
● To format the SD Memory Card on this computer, do not use [Format] of Windows, but use the SD Memory Card format software.
  You can download the software from the web site below.
  http://panasonic.jp/support/global/cs/sd/download/sd_formatter.html
● To use the SD Memory Card on other devices, format the card on the devices. For further information, refer to the instruction manual of the devices.

The drive letter for the SD Memory Card slot
● The drive letter for the SD Memory Card slot cannot be changed or fixed. The drive letter for the SD Memory Card slot is allocated as the first drive letter available when the memory card is first recognized.

Handling and storage cautions
● Store the SD Memory Card in the case after removing it from the computer.
● Do not:
  • Disassemble or modify the card.
  • Hit, bend, drop or wet the card.
  • Touch the terminals with fingers or metal object.
  • Remove the labels of the card / Attach other labels or stickers to the card.
● Do not place the card in the following locations.
  • In direct sunlight or in very hot location such as inside of a car.
  • In very dusty or humid location.
  • In location subject to corrosive gas, etc.

Data handling cautions
● Set the write-protect switch (A) to the LOCK position. Unlock the switch when recording (checkout), saving, or editing data.
● We recommend you to back up the important data to another storage medium.
● When disposing the card, we recommend you to physically destroy the card (using a hammer, etc.) to prevent personal or confidential data from being leaked.

A—
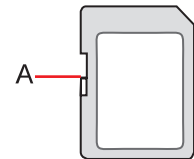
Inserting/Removing the SD Memory Card

CAUTION

- Do not remove or insert the SD Memory Card until Windows has completed loading.
- Do not remove the card or turn off the computer in the following cases, otherwise the data may be corrupted.
  Just after the writing operation.
  The computer may still continue the access to the card just after writing operation. If you remove the card before the operation is completed, the data may be damaged or the card access may no longer perform normally.
- Note that Panasonic assumes absolutely no liability for any loss of data recorded by the user, or any other damages, directly or indirectly.
- Do not forcibly draw out the card, otherwise the slot may be damaged.
- Insert the card in the correct direction, otherwise the card and the slot may be damaged.
- After resuming from standby or hibernation, do not access the SD Memory Card for approximately 30 seconds.

■ To insert the card

1 **Insert the SD Memory Card <u>with the label side facing up and with the cut corner on top.</u>**

■ To remove the card

Preparation
- Save the data and close all applications.
- Confirm the SD Memory Card indicator 🆂🅳 is off.
- When SD Memory Card security function is enabled, it may be possible to remove the card even when 🆂🅳 is blinking.

1 **Disable the card function.**

① Double-click 🖥 on the notification area and select [Secure Digital Storage Device], then click [Stop].
② Follow the on-screen instructions.
- This step is not necessary when removing the card after turning off the computer.
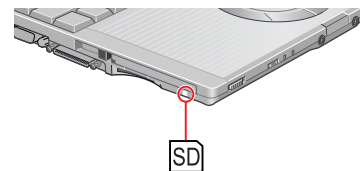
2 **Remove the card.**

① Press the card so it comes out of the slot.

② Draw it straight out.

SD Security

Inserting a specific SD Memory Card can work as an alternative to entering password in the cases below. Format the card and make the necessary settings.
- Starting up the computer
- Logging on to Windows
- Resuming the computer from standby, hibernation or screensaver

NOTE

- If you are unable to use the SD Memory Card, you can enter the Supervisor or User Password to start up the computer, then log-on to Windows using your log-on password.
- This function works only with the SD Memory Card slot. It does not work with other devices such as an SD card reader/writer connected through USB port.
- You can use the setup SD Memory Card as an ordinary card on the computer and other devices.
- You can use a single setup SD Memory Card for multiple computers. However, when using the card to log on to Windows, you need to use the same logon user and the same password on all of the computers. The security functions set on this SD Memory Card cannot be used on CF-W2, CF-T2 and CF-Y2 series.

SD Card Setup

Preparation
- To use to start up the computer
  Set the Supervisor Password in the Setup Utility (➔ page 37). (You can also set it during the configuration procedure.)
- To use to log on to Windows or to resume from standby, hibernation or screensaver.
  Set the Windows logon user and the password in [Control Panel] in advance. For further information, refer to the Windows Help.

1 **Log on to Windows as an administrator.**

2 **Insert the formatted SD Memory Card in the SD Memory Card slot.**
   If [Secure Digital storage device] appears, click [Take no action], then click [OK].

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

4 **Click [Next] in the Welcome screen.**

5 **Select the trigger operation (A).**

[Leave set]
Insert and leave the card in the slot. (You can remove the card afterward.)

[Set and eject]
Insert the card and eject it.
When logging on to Windows or resuming from standby or hibernation or screen-saver, eject the card after the beep sounds to indicate card recognition. If the speakers are muted, beeps do not sound.

- Make the setting on each computer. You cannot use different settings on the same computer even with different SD Memory Cards.
- To select different settings for starting the computer and logging on to Windows:
  In this screen, set the trigger operation to log on to Windows. After completing the SD Card Setup, start the Setup Utility and select the setting to start up the computer in [SD Setting Method] of the [Security] menu (➔ page 71).
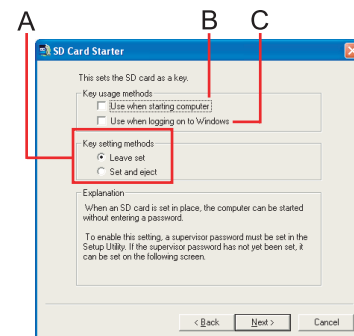
6 **Make the necessary settings.**

To start up the computer
The SD Memory Cards will be registered to the computer.
- You can register up to two cards (To set up the second SD Memory Card: ➔ page 46).
- ① Add the check mark for [Use when starting computer] (B) and click [Next].
- ② Click [Restart the computer after entering settings] and click [Finish].
- ③ Enter the Supervisor Password and click [OK].
- If the Supervisor Password is not set, follow the on-screen instructions to set the Supervisor Password.
- You can use up to 32 alphanumeric characters (including spaces).
  - The case (upper/lower) is ignored.
  - Use only the upper horizontal row of numeric keys to input your password.
  - You cannot use **Shift** and **Ctrl** to input a password.

To use to log on to Windows
The Windows logon user name and the password set in [Control Panel] are registered in the SD Memory Card.
- ① Add the check mark for [Use when logging on to Windows] (C) and click [Next].
- ② Click [Restart the computer after entering settings] and click [Finish].
- ③ Enter the Windows logon user name and the password.

- After making this setting, the following functions will be disabled.
  - Displaying the Welcome screen
  - The Fast User Switching function
  - Remote desktop connection
- When you add the check mark for [Do not check the user name], you can register a user name that is different from the Windows user name. Click [Yes] at the confirmation message. When restarting the computer and logging on to Windows, you will need to enter the Windows user name and the password without using the SD Memory Card.
- A [PRIVATE] folder will be created in the SD Memory Card, and the encrypted Windows logon user name and the password will be registered.
  Do not delete [PRIVATE] folder. Doing so will cancel [Use when logging on to Windows].
- If an SD Memory Card is already inserted when resuming from the standby or hibernation, or the screensaver, the password input screen appears. Input the password.

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 follow the above steps.

<div style="background:orange">CAUTION</div>

- Do not lose the setup card.
- Do not leave the setup card in the slot when you go away from the computer.

■ To change the settings / To set up the second SD Memory Card

① Start the SD Card Setup program (➔ page 44 Step *1*-*3*).
The screen is different from the initial setup screen.
② Change the settings.
[Setting for this computer]
You can change the settings registered in this computer.
[Setting for this SD card]
You can change the settings of the inserted SD Memory Card.
③ Select [OK].
④ Make the necessary settings.
- Refer to the initial setup procedure (➔ page 44).
- You may need to enter the password to proceed the steps.
⑤ Restart the computer.

■ To disable the setup card

If you have lost the setup card, disable the card to avoid unauthorized startup or logon.

When using to start up the computer

① Start the SD Card Setup program. (➜ page 44 Step*1*-*3*)
The current settings will be displayed.

② Remove the check mark from [Use the SD card when starting the computer].

③ Click [OK], and then follow the on-screen instructions.
All SD Memory Cards currently registered on this computer will no longer be usable to start up the computer.
● Even if you add the check mark again for [Use the SD card when starting the computer], the card will not be usable to start up.

When using to log on to Windows

① Change the Windows logon password.
The card will no longer be usable to log on to Windows.

Mini Port Replicator

You can use an optional mini port replicator (CF-VEBU05AU). This device frees you from being bothered by a lot of cable connections when you carry the computer. It also allows you to connect various peripherals.
Connect the mini port replicator to the mini port replicator connector (A).
For further information, refer to the instruction manual of the mini port replicator.

A
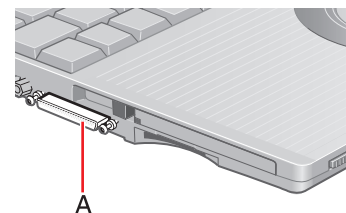
NOTE

- To use the mini port replicator, set [USB Port] setting to [Enable] (default) in the [Advanced] menu of the Setup Utility.
- When the mini port replicator is connected, the AC cord, LAN cable and external display should be connected to the mini port replicator.
  The LAN port and external display port cannot be used.
- If devices connected to USB ports (2a, 2b, 2c) does not operate:
  In the case of devices with consumption voltage exceeding 100 mA, or devices for which the consumption voltage cannot be confirmed, connect via USB port 1 or the computer's USB port.
  For further information, refer to "When using a commercially available USB2.0 Hub". (➔ page 54)

External Display

You can switch the output destination to an external display.
Connect the external display to the external display port (A).

A
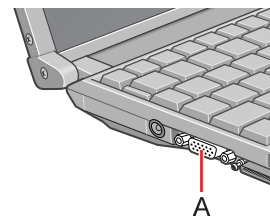
NOTE

- After resuming from hibernation or restarting the computer, the output destination may not be the same as the one selected in the previous status.
- Do not connect or remove the external display during standby or hibernation.
- It may take some time to switch between displays depending on the displays used.
- When you use high resolution displays, the display color, resolution or refresh rate may be changed, switching to [Notebook] in [Intel(R)GMA Driver for Mobile].
  We recommend you to switch the output destination by pressing **Fn**+**F3**.
- When you change the output destination after Windows starts up, do not press any key until switching is complete.
- You cannot use the simultaneous display until Windows starts up.
- Display switching by pressing **Fn**+**F3** may not work when you use the Fast User Switching function to switch the user. In this case, log off all users and restart the computer.
- Simultaneous display and display switching do not work when [Command Prompt] screen is set to "Full Screen".
- When you use an external display or extended desktop, click [Display Settings] and set a suitable number of colors, resolution, or refresh rate for each display.
  Depending on the settings, some external displays may be distorted or displayed incorrectly. In this case, check the refresh rate setting.
- When you use the simultaneous display, DVD-Video, MPEG files and other motion image files may not be played back smoothly.
- Carefully read the instruction manual of the external display.
- When connecting an external display that does not conform to the Plug & Play standards, select the display driver accordingly in the following menu, or use the driver disk supplied with the external display.
  [start] - [Control Panel] - [Appearance and Themes] - [Display] - [Settings] - [Advanced] - [Monitor] - [Properties] - [Driver] - [Update Driver]
- When you use the external display with 2048 x 1536 dot resolution, use the display which is supported 60 Hz refresh rate. If not, some external displays may be distorted. For further information, refer to the instruction manual of the external display.
- If a picture is not displayed normally, lower the level of [Hardware acceleration] in the following menu.
  [start] - [Control Panel] - [Appearance and Themes] - [Display] - [Settings] - [Advanced] - [Troubleshoot]
- If you connect an external display via the mini port replicator (CF-VEBU05AU), you cannot use the external display port on the computer.

CAUTION

- Before disconnecting the external display, switch to the internal LCD by pressing **Fn**+**F3**. Otherwise the displayed image quality may become different form before disconnection (e.g., wrong resolution). In this case, press **Fn**+**F3** to reset the image quality.
- The screen may become distorted due to the following operations. In this case, restart the computer.
  - Disconnecting an external display for which you have set high resolution or high refresh rate.
  - Connecting/disconnecting an external display during computer operations.

Switching the Display

1 **Press Fn+F3.**

Each time you press the key combination:
Internal LCD → Simultaneous display → External display

Extended Desktop

The extended desktop function allows you to use the working area across both the internal LCD and the external display. You can drag an object from the internal LCD to the external display and vice versa.

1 **Click [start] - [Control Panel] - [Other Control Panel Options] - [Intel(R) GMA Driver for Mobile]**

2 **Click [Extended Desktop], the settings for [Primary Device] and [Secondary Device].**

3 **Click [Display Settings] and set the display color and resolution etc.**

4 **Click [OK].**

NOTE

- Always change the settings in the manner described above.
- It may not be possible to use the extended desktop with some software applications.
- When you click the maximize button, the window is displayed on one of the displays. You cannot move the maximized window to the other display.
- You cannot switch the display by pressing **Fn**+**F3** when using the extended desktop.
- The pop-up icon displayed by **Fn** key combination appears only on the primary device.
- Set the internal LCD to the primary device when using the touchscreen. The cursor will move on the primary device when you touch the internal LCD.

● **When the application running is not shown on the display.**
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.
● When the display domain for the Extended Desktop is changed, the wallpaper and icons may become displaced.
● When an animated pointer is used for the mouse pointer.
An error may occur when resuming from the standby or hibernation. In such cases, change the mouse pointer to the standard pointer with the following procedure:
① Click [start] - [Control Panel] - [Printers and Other Hardware] - [Mouse].
② Click [Pointers].
③ Click [None] in [Scheme], then click [OK].

USB Devices

Connecting/Removing USB Devices

■ To connect the device

1 **Connect the USB device to one of the USB ports (A).**

For further information, refer to the instruction manual of the USB device.
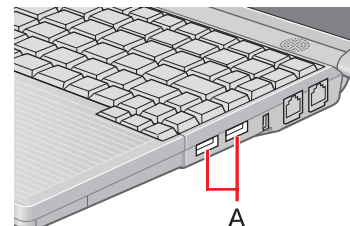
■ To remove the device

Preparation

● Close all applications.

1 **Disable the USB device.**

① Double-click 🖳 on the notification area and select the USB device, then select [Stop].

② Follow the on-screen instructions.

● This step is not necessary when;

• Removing the device after turning off the computer.

• 🖳 is not displayed.

• The device does not appear in the list in step ①.

2 **Remove the USB device.**

CAUTION

● Do not remove a USB device while your computer is in the standby or hibernation.

● Save important data and close all applications.

NOTE

● You may need to install the driver for the USB device. Follow the on-screen instructions or refer to the instruction manual of USB device.

● You may need to install the driver again when connecting the device to another port.

● When a USB device is connected, standby and hibernation may not function normally. If the computer does not start up normally, remove the USB device and restart the computer.

● Some devices will not operate when connected to a USB HUB; These devices must be connected directly to the USB port on your computer.

- When the USB device is removed and then inserted while the computer is on, ⚠️ may appear in the Device Manager and the device may not be correctly recognized. In this case, remove and connect the device again, or restart the computer.
- When a USB device is connected, power consumption increases. Remove the USB device when it is not in use, especially when operating by battery power.

When Using an External Mouse

Before installing an external mouse driver, first uninstall the Touch Pad driver. In this case, you will be unable to use the Touch Pad scroll function.

CAUTION

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

1 **Click 🌐 or 🌐 on the notification area, and then click [Exit].**

2 **Click [start] - [Control Panel] - [Add or Remove Programs] - [Touch Pad utility], and then click [Change/Remove] to remove the program.**
  - Following the on-screen instructions.
  - If the message [Locked File Detected] is displayed, click [Reboot].

3 **Click [start] - [Control Panel] - [Add or Remove Programs] - [Synaptics Pointing Device Driver], and then click [Change/Remove] to uninstall the driver.**

4 **After following the on-screen instructions to uninstall the driver, click [start] - [Turn Off Computer] - [Turn Off].**

5 **Turn on the computer and start Windows.**

6 **Install the mouse driver according to the instructions manual of the mouse driver.**

NOTE

- 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].

■ When using the Touch Pad Utility

1 **Click [start] - [Control Panel] - [Add or Remove Programs] to remove the external mouse driver.**
- For further information, refer to the instructions manual of the mouse driver.

2 **After the driver is removed, turn off the computer.**
- If an external mouse is connected, disconnect it after turning off the computer.

3 **Turn on the computer.**

4 **Click [start] - [Run] and input [c:\util\drivers\mouse\setup.exe] and then click [OK].**
- Follow the on-screen instructions.
- At [Setup complete], confirm that [Yes, I want to restart my computer now] is set and click [Finish].

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

6 **Click [start] - [Run] and input [c:\util\touchpad\setup.exe], and then click [OK].**
- Follow the on-screen instructions.
- If the message [Touch Pad function and original Flat Pad scroll function cannot be used simultaneously] is displayed after completing the installation, click [Yes].

When using a commercially available USB2.0 Hub

A commercially available USB2.0 Hub connected to your computer may stop functioning if a USB2.0 printer is disconnected from another port. This phenomenon may occur when a USB2.0 printer is connected to the USB port 1 on the mini port replicator (CF-VEBU05AU).
Perform one of the following procedures.
- Connect the USB2.0 printer to the USB2.0 Hub.
- Connect the USB2.0 printer to the USB port (2a, 2b, 2c) on the mini port replicator (CF-VEBU05AU).
- Deactivate the power saving function of the USB2.0 Root Hub.
  When you deactivate the power saving function, you can select two methods.
  • Manually deactivate the power saving function of the USB2.0 Root Hub: Perform the following procedure
  • Deactivate automatically the power saving function of the USB2.0 Root Hub: ()

Manually deactivate the power saving function of the USB2.0 Root Hub

1 **Click [start] - [Control Panel] - [Performance and Maintenance] - [System].**

2 **Click [Hardware] - [Device Manager].**

3 On the Device Manager display, click [View] - [Devices by connection].

4 Click ⊞ for the following items in order.
[ACPI Uniprocessor PC] - [Microsoft ACPI-Compliant System] - [PCI Bus] - [Intel(R) 82801G (ICH7 Family) USB2 Enhanced Host Controller-27CC].

5 Right-click [USB Root Hub] under [Intel(R) 82801G (ICH7 Family) USB2 Enhanced Host Controller-27CC] and then click [Properties].

6 Click [Power Management] and remove the check mark from [Allow the computer to turn off this device to save power].

7 Click [OK].

8 Restart the computer.

NOTE

- If a mini port replicator is connected, remove the check mark from this item. If the check mark is added, it may be impossible to use the USB ports (2a, 2b, 2c) on the mini port replicator. If this occurs, remove the check mark, then restart the computer.

Deactivate automatically the power saving function of the USB2.0 Root Hub
Install the "Selective Suspend Mode Changer Utility" with the following procedure. The power saving function will be deactivated with the USB2.0 Hub and activated without the Hub automatically.

1 Click [start] - [Run] and input [c:\util\selsusch\setup.exe] and then click [OK].

2 Click [Next].

3 Click [Yes, I want to restart my computer now] and then click [Finish].

Installation is completed when your computer restarts.

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.

A
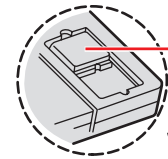
Write Enable
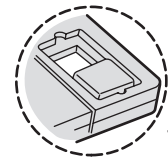
Write Disable

Modem

CAUTION

- Do not use the PBX internal phone lines installed in company offices. Doing so may lead to a fire or electric shock.
- You cannot connect the modem to the following lines.
  - Interphone
  - Intercom
  - ISDN
- Be sure to connect the telephone cable into the modem port, not into the LAN port.
- Use a surge protector since the modem may be damaged by a sudden high voltage surge that may occur in the event of a lightning strike.

1 **Connect the computer and the telephone jack (A) using the telephone cable (included: B).**
- Hold the cable so that the shape of the connector (C) matches the port, and insert fully until it clicks.

2 **Click [start] - [Control Panel] - [Printers and Other Hardware] - [Phone and Modem Options] and change the settings as necessary.**
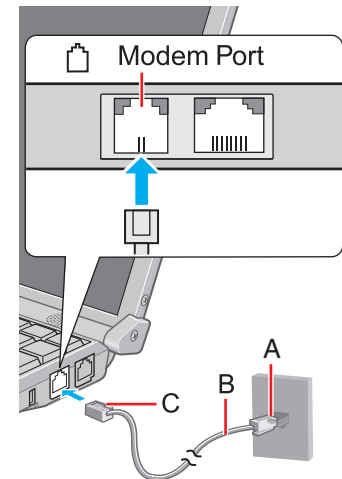
NOTE

- Do not enter standby or hibernation during communications.
- To remove the cable, press and hold the lever and pull out.

Ring Resume Function

The computer automatically resumes from standby when the telephone connected to the modem rings.
You will need software to keep the computer in an idle state waiting for a phone call, and if you prefer, to turn the computer to standby again afterward. For further information, refer to the instruction manual of the software application.

1 **Click [start] - [Printers and Faxes].**

2 **Click [Set up faxing] in the [Printer Tasks] area on the left.**
   ● This operation is not necessary next time.

3 **Right-click 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].**

■ To set the time to return the computer to standby

The computer will enter standby after the set time even when the communication is not completed. You can avoid such uncompleted communication if you select [Never], but the computer does not return to standby after resuming by a phone call.

   ① Click [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes].
   ② Set the expected communication time.

> **NOTE**
>
> ● This function does not work when the computer is off or is in hibernation.
> ● Connect the AC adaptor.
> ● The screen remains dark after the computer resumes from standby. The previous screen display will be restored when you touch the keyboard, Touch Pad or touchscreen (only for model with touchscreen).

Modem

● The computer cannot resume if the telephone is not connected to the internal modem (e.g., you cannot use a PC Card modem).
● The computer needs some time to respond, so set the calling time longer than normal. If this is not possible on the transmission side, reduce the number of rings before answering on the software that you are using to keep the computer in idle waiting for the call.

CAUTION

- Do not connect the telephone cable to the LAN port.
- To ensure proper network operations, use a twisted pair cable (category 5 or higher) less than 100 m in length.
- Do not use the standby or hibernation 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. 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]

1 **Turn off your computer.**

- Do not use standby or hibernation.

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.**
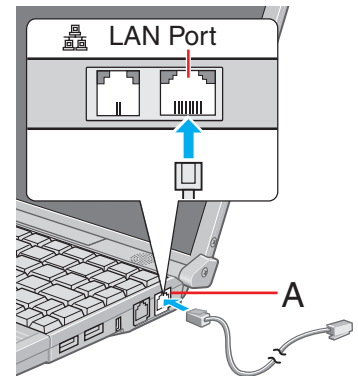
Wake up from LAN Function

This is a function of the internal LAN to automatically resume 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. (The function is enabled in the default setting.)

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 or remove check marks for [Allow the computer to turn off this device to save power] and [Allow this device to bring the computer out of standby] to enable or disable the function, click [OK], and then click ❌ on [Device Manager] screen to close.
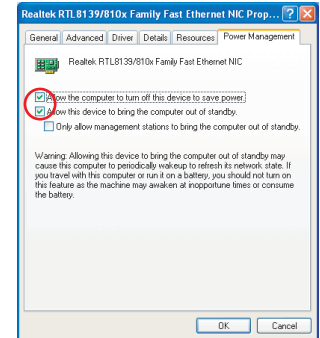
CAUTION

● 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
  • When [LAN] is set to [Disable] in the Setup Utility
● 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.

<Only for model with wireless LAN and/or wireless WAN>
There are three ways of disabling and enabling wireless communication.
● The wireless switch on the front of the computer (below)
● The wireless switch utility (below)
● Settings in the [Advanced] menu of the Setup Utility (➔ page 70)

NOTE

● For further information about Wireless LAN: ➔ page 64
● For further information about Wireless WAN: Refer to the instruction manual of the wireless device.

The Wireless Switch

■ To disable all wireless communication

1 **Switch to OFF**

Wireless Switch
OFF ⟷ ON

■ To enable wireless communication

1 **Switch to ON**
● In the default setting, turning on the wireless switch will turn on all the devices.

NOTE

● If you uninstall the Wireless Switch Utility, set the wireless switch to ON.

The Wireless Switch Utility

This utility allows you to control the function of the wireless switch. This utility also allows you to enable or disable wireless devices from a pop-up menu in the notification area. In the default setting, all wireless devices are enabled.

■ The Wireless Switch Utility icon

The icon appears in the notification area when the computer is turned ON. It shows the status of wireless devices.

- : Indicates that the wireless devices are enabled.

- : Indicates that the wireless devices are off.

- : Indicates that the wireless devices have been disabled in the Setup Utility.

■ To enable or disable particular wireless devices

1 **Click the Wireless Switch Utility icon to show the pop-up menu.**

2 **Select On or Off for the device you want to enable or disable.**

■ To change the function of the Wireless Switch

In the default setting, the Wireless Switch enables all wireless devices when it is set to ON. You can change this function.

1 **Click the Wireless Switch Utility icon (or) on the notification area and click [Settings].**

2 **Select the setting you want to assign to the wireless switch.**
[Select the device for which to turn the device status on each time with the dialog box.]
Display a dialog each time you set the Wireless Switch to ON so you can choose which wireless device to enable.
[Turns on the following device.] (default)
Only selected devices are enabled when you set the Wireless Switch to ON.
[Turns on the device that was on immediately before the wireless switch was turned off the last time.]
When you turn on the wireless switch, the on/off settings that were selected when you last turned off the wireless switch will be restored.

3 **Click [OK].**

<Only for model with wireless LAN>

- **Do not use wireless LAN on airplanes, in hospitals, or in other locations where wireless LAN signals may affect peripheral devices.**
  Follow the instructions of airline companies and hospitals. If you use the computer in these locations, turn off the wireless LAN.
- **To avoid unauthorized access to the computer through wireless LAN**
  We recommend you to make security settings such as encryption before using wireless LAN. Otherwise the hard disk data such as the shared files can be exposed to the risk of unauthorized access.

NOTE

- Communication is established through the wireless LAN antenna (A). Do not block the antenna area with your hand.
- Do not use the Fast User Switching function. The wireless LAN cannot perform.
- The transmission rate will be lower when a microwave oven is used.
- If IEEE802.11a is enabled or disabled while the computer is connected to an IEEE802.11b/g access point, the connection will be temporarily interrupted.
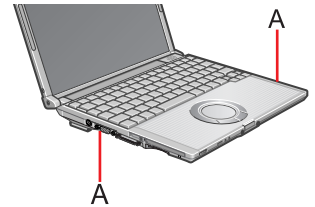
Using the Wireless LAN Function

Before using a wireless LAN, turn the wireless LAN communication on.

Turning on/off the wireless LAN communication

1 **Slide the wireless switch to turn on/off the wireless LAN. (➔ page 62)**

- When turning on wireless LAN
  If you cannot turn on wireless LAN using the wireless switch, confirm the Wireless Switch Utility setting (➔ page 62).

NOTE

- It may take some time to turn off wireless LAN after switching the wireless switch to off.

Setting the profiles

Preparation
Follow the instruction manual of the wireless LAN access point to make settings for the access point to recognize the computer.

1 **Slide the wireless switch to the right to turn on the wireless LAN.**

2 **Double-click 🐟 / 🐟 / 🐟 on the notification area.**
The [Intel(R) PROSet/Wireless] screen appears.

3 **Click [Profiles] and click [Add].**

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

5 **Make necessary settings and click [OK].**

6 **Select the profile you set and click [Connect].**

7 **Click [Close].**

NOTE

● You need to set the profile for each user.
● The settings depend on the network environment. For further information, ask the system administrator or the person in charge of the network.
● For further information of Intel® PROSet/Wireless software, refer to [Help] in the menu bar.

Setting the Wireless LAN Standard IEEE802.11a (802.11a)

1 Click 🔧 or 🔧 on the notification area.

2 Click [802.11a Disabled] or [802.11a Enabled].

NOTE

● In some countries, communication using IEEE802.11a (5 GHz wireless LAN) standard is restricted by law.

● The Wireless Switch Utility icon (🔧 or 🔧) indicates the on/off status of wireless LAN and/or wireless WAN, not the setting of IEEE802.11a.

● If IEEE802.11a is enabled or disabled while the computer is connected to an IEEE802.11b/g access point, the connection will be temporarily interrupted.

● You can also change the IEEE802.11a setting in [Device Manager].
  ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager].
  ② Click [Network adapters] and double-click [Intel(R) PRO/Wireless 3945ABG Network Connection].
  ③ Click [Advanced], and then click [Wireless Mode] in [Property].
  ④ Remove the check mark from [Use default value] in [Value], and select the settings (e.g., [802.11a and 802.11g]).
  ⑤ Click [OK].

If you turn on/off 802.11a using the popup menu of Wireless Switch Utility, the setting in [Device Manager] will be accordingly changed as below.

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

To check the wireless LAN network status

① Place the cursor over the Wireless Switch Utility icon (or) on the notification area.
A tooltip appears.

NOTE

- The Wireless Switch Utility icons (and) indicate the on/off status of wireless communication, not the IEEE802.11a setting.
- If the IEEE802.11a setting is changed in [Device Manager], the display will be changed accordingly.
- Perform either of the following procedures to check the status in Intel® PROSet/Wireless Software.

  - Double-click , or on the notification area.
  - Click [start] - [All Programs] - [Intel PROSet Wireless] - [Intel PROSet Wireless].

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.

Setup Utility

You can make the settings of the computer's operating environment (password settings, startup drive selection, etc.)
● Cannot display the Setup Utility screen in simultaneous display.

Starting the Setup Utility

1 **Turn on or restart the computer.**

2 **Press F2 several times while [Panasonic] boot screen is displayed soon after the computer starts the startup procedure.**
When [Enter Password] is displayed, enter your password.
When you enter Supervisor Password
 ● You can make the settings of all items of the Setup Utility.
When you enter User Password
 ● Note the following:
 • In the [Advanced] and [Boot] menus, you cannot make the settings of all items.
 • In the [Security] menu, you can only change the User Password and TPM. You can change User Password when [User Password Protection] is set to [No Protection]. You can change TPM when [Embedded Security (TPM) Sub-Menu] is set to [No Protection].
 • In the [Exit] menu, you cannot make the setting of [Get Default Values].
 • F9 does not function.

Information Menu

(Underlined items are the factory presets.)

Language	English Japanese
Model No. Serial No. CPU Type CPU Speed BIOS Embedded Controller System Memory Primary Master Accumulative Operating Time	Computer Information (Cannot be changed.)

Setup Utility

Main Menu

(Underlined items are the factory presets.)

System Time • 24-hr. style. • You can use **Tab** to move the cursor.	[xx:xx:xx]
System Date • Month/Day/Year. • You can use **Tab** to move the cursor.	[xx/xx/xxxx]
Touch Pad	Disable <u>Enable</u>
Fn/Ctrl Key • Select whether to switch **Fn** with **Ctrl** 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
Display • The display during the Windows start-up process. When an external display is not connected, the information appears on the internal LCD even though [External Monitor] is set.	<u>External Monitor</u> Internal LCD
Display Expansion	Disable <u>Enable</u>
Memory/Video Power Save • When [Max Performance] is set, set the memory frequency up to 533 MHz and video frequency up to 166 MHz. • When [Battery Optimized] is set, set the memory up to 400 MHz and video up to 133 MHz.	<u>Max Performance</u> Battery Optimized
Battery Charging Indicator	<u>On Continuous</u> Flashing
LED Brightness • You can set the brightness of the power indicator. ([Auto] : The brightness varies according to the brightness of the internal LCD. [Dimmer] : The brightness remains dark.)	<u>Auto</u> Dimmer
Thermal Control • Set [Extended] if you want to optimize CPU performance controls for continued operation in high temperatures.	Extended <u>Standard</u>

Advanced Menu

(Underlined items are the factory presets.)

Core Multi-Processing • When using the originally installed Windows XP, leave this set to [Enable]. Setting to [Disable] is not supported.	Disable <u>Enable</u>
Modem	Disable <u>Enable</u>
LAN	Disable <u>Enable</u>
Wireless LAN • Only for model with wireless LAN	Disable <u>Enable</u>
Wireless WAN • Only for model with wireless WAN	Disable <u>Enable</u>
PC Card Slot	Disable <u>Enable</u>
SD Slot	Disable <u>Enable</u>
USB Port	Disable <u>Enable</u>
Legacy USB Support • Select whether to use the function that makes the computer recognize USB keyboard, USB floppy disk drive and USB CD/DVD drive ([Enable]) or not ([Disable]) before starting Windows. • It is effective only when [USB Port] is set to [Enable].	Disable <u>Enable</u>

Security Menu

(Underlined items are the factory presets.)

Execute-Disable Bit Capability • [Enable] indicates that this computer supports hardware-based Data Execution Prevention (DEP). It should usually be set to [Enable].	Disable <u>Enable</u>
Password on boot	Disable <u>Enable</u>
SD Startup • Only when [Password on boot] is set to [Enable] and one or more SD card is registered	<u>Disable</u> Enable
SD Setting Method • Only when [SD Startup] is set to [Enable]	<u>Leave Set</u> Set and Eject
▶Clear registered SD card	Enter the sub-menu.
▶Set Supervisor Password	Enter the sub-menu.
Setup Utility Prompt • When [Setup Utility Prompt] is set to [Disable], the message "Press F2 for Setup / F12 for LAN" is not displayed on [Panasonic] boot screen. However, **F2** and **F12** will work even if the message is not displayed.	Disable <u>Enable</u>
Boot First Menu	Disable <u>Enable</u>
Hard Disk Lock	<u>Disable</u> Enable
User Password Protection	<u>No Protection</u> Protected
▶Set User Password	Enter the sub-menu.
▶Embedded Security (TPM) Sub-Menu • Only for model with TPM • For information on TPM, input [c:\util\drivers\tpm\README.pdf] in [start] - [Run] and refer to the *Installation Manual* of "Trusted Platform Module (TPM)".	Enter the sub-menu.
▶Computrace (R) Sub-Menu	Enter the sub-menu.

Boot Menu

```
Boot priority order:
 1: USB FDD:*1
 2: IDE HDD: xxxxxxxxxx
 3: USB CDD:
 4: PCI LAN: xxxxxxxxxx
 5:
 6:
 7:
 8:
Excluded from boot order:*2
  :USB KEY
  :USB HDD
  :USB LS120
```

*1 Use the Panasonic USB floppy disk drive (optional: CF-VFDU03)
*2 The devices under [Excluded from boot order] are not booted.

■ To change the boot order

To move up, select the device with ⬆ and ⬇, and then press **F6**.
To move down, select the device with ⬆ and ⬇, and then press **F5**.
To move the device from [Excluded from boot order] to [Boot priority order] or vice versa, select the device with ⬆ and ⬇, and then press **X**.
To return to the default setting, press **1**.

NOTE

● The default order is [USB FDD] -> [IDE HDD] -> [USB CDD] -> [PCI LAN].
● To boot from the following devices, make the settings as below.

    To boot from   You need to set
    • USB connected device   : [USB Port] and [Legacy USB Support] to [Enable] (➔ page 70)
    • LAN   : [LAN] to [Enable] (➔ page 70)

● In the [Boot] menu, the names of the connected devices (including internal devices) will be displayed.
● If more than one of the same devices are connected, only one device name will be displayed.
● You can select the boot device during start-up of the computer, too. Press **Esc** soon after [Panasonic] boot screen is displayed. [Boot Menu] appears and you can select the device. [Boot Menu] appears only when [Boot First Menu] in

the [Security] menu is set to [Enable] (➔ page 71). When you change the setting in the [Boot] menu, [Boot Menu] will be changed accordingly.

Exit Menu

Save Values & Exit	To save the changes to CMOS and reboot.
Exit Without Saving Changes	To exit without saving the changes to CMOS.
Get Default Values	To return the settings to the default values.
Load Previous Values	To load the previous values from CMOS.
Save Current Values	To save the changes to CMOS.

You can enlarge the screen items such as characters, icons, title bars and cursor.

CAUTION

- "Icon Enlarger" will not start up if the display resolution is set lower than 1024 x 768 dots.

NOTE

- A part of the enlarged menu or some screen items may be hidden. In this case, overlay the cursor to display pop-ups, scroll the screen, or use other functions to display the hidden items.
- The Icon Enlarger setting affects the website characters displayed by Internet Explorer and the e-mail characters in Outlook Express. Some characters of website and e-mail may not be enlarged.

Preparation
Close all of the applications before using "Icon Enlarger".

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

2 **Select the size.**

3 **Click [OK].**
The screen will be displayed in the selected size.

Extra Large Size
Large Size
Normal Size
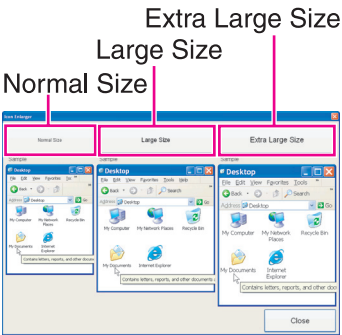
Loupe Utility

You can magnify the specific part of the screen.

Activating the Loupe Utility

1 **Click [start] - [All Programs] - [Panasonic] - [Loupe Utility].**

2 **Click [OK].**

- ● appears on the notification area.
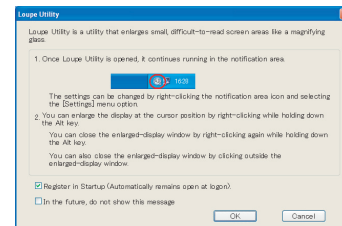
Using the Loupe Utility

1 **Point the cursor at the part of the screen you want to magnify.**

2 **Press and hold Alt, and right-click.**
- ● The part pointed by the cursor is magnified.
- ● Alternatively you can double-click , or right-click and click [Show Loupe].

3 **Drag the loupe window (A) to move the magnified part.**
- ● To hide the loupe window, click the Hide button (B).
  Alternatively you can click any part out of the loupe window, or press and hold
  Alt and right-click.
- ● To change the loupe window size, drag the bottom-right corner (C).
  The size range you can enlarge/shrink depends on the screen's resolution.
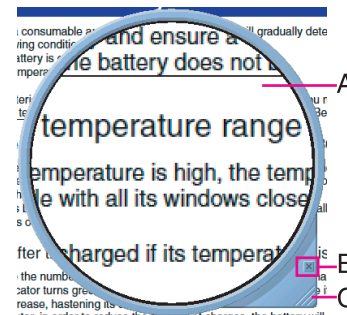
NOTE

- ● If you execute the scroll operation while the loupe window is displayed, the window directly below the loupe window will scroll vertically. The loupe window will not be displayed during vertical scrolling. When vertical scrolling stops, the loupe window will be displayed in the same position where it appeared before scrolling began.
- ● Not compatible with the horizontal scroll function in the Touch Pad utility. (➔ page 4)

● The magnified text or image in the loupe window is fixed at the moment that the part is magnified (e.g., at the moment you press and hold **Alt** and right-click). To reflect the change you made on the original screen to the loupe window, click the loupe window.
● The Loupe Utility does not work with some applications.

Setting the Loupe Utility

1 **Right-click 🔲 on the notification area.**

2 **Click [Settings].**

   [Show/hide shortcuts assignment]
   ● When using the external mouse/Touch Pad
   ① Click [Mouse/Touch pad]
   ② Click a combination of **Alt**, **Ctrl**, and **Shift**, and add the check mark. (Multiple keys can be combined; for example, **Alt** + **Ctrl**)
   ③ Select either [Right click] or [Left click] to use in combination with the key(s) selected in ② above.
   ● When using the keyboard
   ① Click [Keyboard].
   ② Click the text box and then press the key used for the shortcut. (e.g., **Alt** + **Z**, **Alt** + **Ctrl** + **Z**, etc.)

   [Window shape]
   Select the shape of the loupe window.

   [Autorun]
   Add a check mark to run the Loupe Utility when Windows starts up.
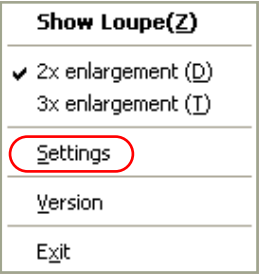
3 **Click [OK].**

DMI Viewer

This computer conforms to the specifications of the Desktop Management Interface (DMI). You can use the DMI Viewer to access the computer's information including the CPU, memory and supported system.

1 **Click [start] - [All Programs] - [Panasonic] - [DMI Viewer].**
The DMI Viewer screen appears.

2 **Click the item to display the detailed information.**
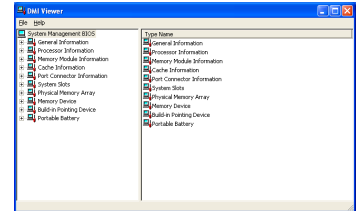
■ To save the information as a text file

① **To save the item that is displayed**
Click [File] - [Save Selected Data].
To save all items
Click [File] - [Save All Data].

② Select the folder, input the file name, and then click [Save].

Recover Pro

Recover Pro is a data backup software application developed by Phoenix Technologies Ltd. It provides 3 types of backup as follows:
- Quick Backup: Scheduled backup of the updated data
- File Backup: File backup at file save and change
- Complete Backup: Backup of the entire data on the hard disk or on the selected drives

For further information, refer to the software's online manual.

Installing Recover Pro

1 **Log on to Windows as an administrator.**

2 **Close all the applications.**

3 **Click [start] - [Run] and input [c:\util\rcvpro\setup.exe], and click [OK].**
Follow the on-screen instructions.
- After the computer restarts, Recover Pro starts initialization. Do not press keys or switch including hot key, during initialization until an instruction message appears.

NOTE

- When executing a [Typical] installation on a drive with multiple partitions,
  the backup area is created using the space of the drive you selected.
  the backup area is created using the space of the drive which has larger empty space.
  the backup area is created using the entire space of all drives.
- If you select [Typical] in installation, approximately 40% (max.) of the hard disk drive space is allocated as the backup area.
- You cannot change the size of backup area after creation.

■ To access the online manual

Click [start] - [All Programs] - [Phoenix Applications] - [Docs] - [UserGuides] - [UG_RecoverPro6_En_EN] / [UG_PhoenixAlways_En_EN].

Problems with Starting Up, Shutting Down and Standby and Hibernation

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 log on screen.
  To log on with the Administrator account, in the log on screen, press **Ctrl** + **Alt** + **Del** 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.
- Run the Setup Utility, and confirm the following settings.
  - [USB Port] and [Legacy USB Support] are set to [Enable] in the [Advanced] menu. (➜ page 70)
  - [USB FDD] is the first device shown in [Boot priority order] in the [Boot] menu. (➜ page 72)
- Turn off the computer, and reconnect the external floppy disk drive.

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 external memory.[1]
- Defragment the disk with the Disk Defragmenter.

[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

- If a peripheral is connected, first remove the peripheral, and then enter the standby or hibernation. If the computer still fails to enter standby or hibernation, restart the computer.
- It may take a minute or two to enter standby or hibernation. Wait for a moment.
- The computer may not enter standby 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 display is closed, the computer may not enter system standby or system hibernation.[*2]
  In order to activate standby or hibernation, set [Touch Pad] to [Disable] in the [Main] menu of the Setup Utility. (➔ page 69)
[*2] Functions that cause the computer to automatically enter standby or hibernation after a certain time interval has passed.

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 84)
- 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 Remove all peripheral devices (including an external display).
  ② Click [start] - [My Computer], right-click [Local Disk(C:)] and click [Properties].
  ③ Click [Tools] - [Check Now].
  ④ 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 in the default setting. (⇒*Operating Instructions* "Reinstalling Software")

When resuming from the standby or hibernation, [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.
  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].

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.

When you logged on Windows, an Internet Explorer script error message is displayed

- Click ❎ to close the displayed window. Close all other windows displayed after that by clicking on ❎ . This phenomenon occurs during logon when the surface of the display is touched with the stylus.
- During the logon process, try not to touch the surface of the display with the stylus.

Problems with Passwords and Messages

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 in the default setting. (⇒ *Operating Instructions* "Reinstalling Software"), then set up Windows and reset the password.

Problems with Operation during Use

Windows operation is slow

- Also check the items in "Windows startup is slow". ()
- 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 Defragmenter 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, confirm the number of colors of the display with the following procedure:[3]
    ① Click [start] - [Control Panel], and from the [See Also] area click [Other Control Panel Options] - [Intel(R) GMA Driver for Mobile] - [Display Setting].
    ② Confirm that [Color Quality] is set to [32 Bit].

[3] Note that this may not improve the speed of all operations.

Cannot scroll with the Touch Pad

- Click [start] - [All Programs] - [Panasonic] - [Touch Pad utility] to start up 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 a message appears indicating that "Flat Pad communication failed, so cannot start up Touch Pad utility," check the following, and make the appropriate settings.
  - If an external mouse is connected:
    External mouse applications and drivers cannot be used at the same time as the Touch Pad utility. Use either the Touch Pad or an external mouse.

When using an external mouse	When using the Touch Pad
● Uninstall the Touch Pad utility using the following procedures. ① Click ![icon] / ![icon] on the notification area, and click [Exit]. ② Click [start] - [Control Panel] - [Add or Remove Programs]. ③ Click [Touch Pad Utility], and click [Change/Remove] to remove the program.	● Uninstall the external mouse application and driver. (➔ page 54) ● Check to ensure that [Touch Pad] is set to [Enable] in the [Main] menu of the Setup Utility. ● Use the following procedures to confirm that the Touch Pad driver has been installed. ① Click [start] - [Control Panel] - [Performance and Maintenance] - [System] - [Hardware] - [Device Manager]. ② Double-click [Mice and other pointing devices]. Confirm that [Synaptics PS/2 Port TouchPad] is in this list. ● Disconnect the external mouse and restart your computer.

● If the error message continues to appear even after confirming the above items, or if there is no external mouse connected:

    ① If an application with a high CPU usage rate is running, exit this application, and click [start] - [All Programs] - [Panasonic] - [Touch Pad utility].

    ② Uninstall and then reinstall the Synaptics TouchPad driver and Touch Pad utility. (➔ page 53)

● 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 [Touch Pad Utility] 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 on-screen instructions for the installation.

  • If it does appear:
  Click [Touch Pad Utility], 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 15)

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** may not work.
  - It may not be possible to set the settings of the display.
  - Personal Secure Drive function of Security Platform (TPM) may not work (Only for models with TPM).
  - The wireless LAN cannot be used. (only for models with wireless LAN)

  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 or Windows XP Tablet PC Edition 2005. Refer to application software manufacturer homepage or other sources.

No response

- Is there an input screen (e.g., password input screen at startup) hidden behind another window? Use the **Alt**+**Tab** to check for other windows being displayed.
- Press the **Ctrl**+**Shift**+**Esc** 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.

[Files Needed] is displayed

- When you add-on Windows components, etc, the screen shown on the right will be displayed. Input "c:\windows\i386", then click [OK].
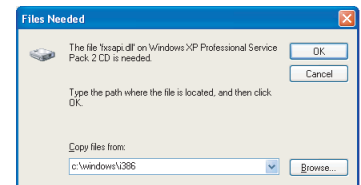
Problems with Battery

The battery indicator lights red

- The remaining battery power 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 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. Your computer can be used normally in this state. Once the range requirement is satisfied, charging begins automatically.
  - Software applications and peripheral devices (USB devices, etc.) are consuming too much power. Exit the software applications currently running. Once the range requirement is satisfied, charging begins automatically.

The battery indicator is flashing

- The battery is recharging.
  If [Battery Charging Indicator] in [Main] menu of the Setup Utility is set to [Flashing], the indicator will alternately become lighter and darker.

To increase the lifetime of the battery

- You can prevent deterioration of the battery pack and extend the lifetime of the battery by setting Economy Mode (ECO) to "Enable" in the Economy Mode (ECO) setting utility. (➔ page 29)
  However, when Economy Mode (ECO) is set to "Enable", the battery pack stops charging at 80% of fully charged, so the battery operation time is shorter.
  To enable/disable the Economy Mode (ECO), refer to "Switching the Economy Mode (ECO)". (➔ page 29)

Problems with Cursor

The cursor cannot be controlled properly

- Sensitivity when touching the Touch Pad can be adjusted. (➜ page 10)
- Make sure [Touch Pad] is set to [Enable] on the [Main] menu of the Setup Utility. (➜ page 69)
- 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 🔳, **U**, and select [Restart] with ➔ ⬅ ⬆ ⬇, then press **Enter**.
  If the computer does not respond to keyboard commands, read "No response." (➜ page 84)

<Only for model with Windows XP Tablet PC Edition>
- Click [start] - [Control Panel] - [Add or Remove Programs], and check that [FCL USB Pen Tablet] is displayed.
  - If it is not displayed:
    It is necessary to install the touchscreen driver.
    Click [start] - [Run], and input "c:\util\drivers\tscreen\TPSetUp.exe", then click [OK].
    Follow the on-screen instructions to complete installation.

The cursor moves randomly

- Adjust the touch sensitivity.
  To adjust the sensitivity, refer to "Adjusting the Sensitivity when Touching the Touch Pad" (➜ page 10).
- Check that no external mouse driver is installed. (Refer to steps ① and ② under "The cursor cannot be controlled properly" above.)
- Do not press the area around the display. The cursor may move to the edges of the screen.

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 53).

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 69)

Problems with Display

Screen is too dark or becomes darker

- Press **Fn**+**F2**. 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. Based on the settings in the default setting, the screen will become darker when the AC adaptor is removed. If you press **Fn**+**F2** 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 **Ctrl** or **Shift**.
    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 or hibernation is entered. Slide the power switch.
- Disconnect the external display before checking a disk error (➔ page 80) or before using commercially available partitioning software. If you run this software with the external display still connected, in some cases, nothing will be displayed on the screen. If this occurs, wait until the process is complete and the screen display returns.

- The display destination may be set to the external display.
  Try changing the display destination by pressing **Fn**+**F3**.
  If you want to switch the display destination repeatedly by pressing **Fn**+**F3**, make sure that the display destination has switched completely each time before pressing **Fn**+**F3** again.
- The screen may become darker. Press **Fn**+**F2** to make the screen brighter.
- When the display is rotated and the screensaver starts, the screen may go black for approximately 1 minute, depending on the type of screensaver. Change the type of screensaver.

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 and a DVD Video are 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.

The LCD brightness changes a number of times when the AC adaptor is disconnected

● Intel(R) Display Power Saving Technology (➔ page 32) is active and automatically changes the LCD brightness.

Image colors are not reproduced as expected when displaying photographs or other images

● We recommend removing the check mark from [Intel(R) Display Power Saving Technology]. (➔ page 32)

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.

Problems with Input

Pressing a letter key produces a number

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

Only capital letters are being input

● The computer may be in Caps Lock mode.
  If Caps Lock indicator Ⓐ lights up, press **Caps Lock**, 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 69).
  Change the setting back to [Normal], or if continuing with [Replace] selected, use **Ctrl** in place of **Fn**.

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?

<Only for model with Windows XP Tablet PC Edition>
When you want to use the input panel

- Click on the taskbar. For information about how to use it, click on the input panel and click [Help Topics] or [Tutorial].

Problems with Sound

The sound is not heard

- Try changing the mute by pressing **Fn**+**F4** or **Fn**+**F6**.
- With the following procedure, check that the Windows sound function is operating.
  (If it is not operating, pressing **Fn**+**F5** or **Fn**+**F6** displays the pop-up icon shown on the right, 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 **Del** , and click [OK] in the confirm deletion screen. Then restart the computer.

To change the volume

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

The audio is distorted

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

Problems with Peripherals

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, 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.

Troubleshooting (Advanced)

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.
- Set the [Execute-Disable Bit Capability] to [Disable] in the [Security] menu of the Setup Utility. If the error is not resolved, it is possible that the driver being used is not compatible with the Data execution prevention function. For a driver, consult the peripheral manufacturer.

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 53)
- 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 69) And uninstall the mouse driver that is installed on this computer.

A PC Card does not work

- Confirm that the card conforms to the PC Card Standard.
- Make sure the card is properly inserted (➜ page 39).
- 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* "Expanding Memory" 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 68).
- 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* "Expanding Memory" 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 as an administrator.
  1. Input [c:\util\cpupower\setup.exe] in [start] - [Run], and then click [OK].
     Follow the on-screen 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 [Panasonic Power Management].
       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 44)

The MultiMedia card and, SDHC Memory Card does not operate when it is inserted

● The SD Memory Card slot on this computer only accepts SD Memory Cards.
It is not compatible with MultiMedia cards and SDHC Memory Cards, do not insert these cards.
If you want to use a MultiMedia card or SDHC Memory Cards, you will require a PC Card adaptor (sold separately) or USB reader/writer (sold separately) that is compatible with MultiMedia cards or SDHC Memory Cards.

When a USB device is connected, an acoustic noise can be heard from the computer.

● Using the following procedure, set the USB power save function to [Disable] in the "USB Power Save Mode Switching Utility".
When it is set to [Disable], the computer will not operate as long on the battery.

① Click [start] - [Control Panel] - [Add or Remove Programs].
When [USB Power Save Mode Switching Utility] is not displayed, perform the following procedures from step ②.
When [USB Power Save Mode Switching Utility] is displayed, perform the following procedures from step ⑤.

② Click [start] - [Run] and input [c:\util\usbpower\setup.exe] and then click [OK].

③ Click [Next].

④ Click [Finish].

⑤ Click [start] - [All Programs] - [Panasonic] - [USB Power Save Mode Switching Utility].

⑥ Click [Disable], and click [OK].

⑦ Click [OK].

⑧ Restart the computer.

Problems with General Network

Unable to connect to a network

● Check that the network you are using ([Modem], [LAN], [Wireless LAN] or [Wireless WAN]) is set to [Enable] in the [Advanced] menu of the Setup Utility (➔ page 70).
● 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 hub unit link lump does not light up, one of the following problems may have occurred.
  • A problem or failure in the hub unit

- Incorrect cable type or incorrect connection
- A break in the cable

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 93).

Cannot check the computer's MAC address

- Check the computer's MAC address using the following procedure:
  - ① Check that the LAN or wireless LAN is not disabled in the Setup Utility or the Device Manager.
  - ② Click [start] - [All Programs] - [Accessories] - [Command Prompt].
  - ③ Input [ipconfig /all], and press **Enter**.
  - ④ Wireless LAN's MAC address:
    Make a note of the 12-digit string of alphanumerics displayed on the wireless LAN's "Physical Address" line.
    LAN's MAC address:
    Make a note of the 12-digit string of alphanumerics displayed on the LAN's "Physical Address" line.
  - ⑤ Enter "exit", and press **Enter**.

Problems with Wireless LAN (only for models with wireless LAN)

Access point is not detected

- Shorten the distance between the computer and the access point, and try the detection again.
- It may take some time before the access point is displayed in [Available Networks]. Wait 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 70)
  - Wireless device off:

    Confirm that 🟡 / 🔴 / 🟢 is displayed on the notification area.

    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\Apps\install.bat] in [start] - [Run] to install.

- Wireless LAN power supply

  If ![icon] is displayed on the notification area, slide the wireless switch to the right (ON).

- IEEE802.11a settings
  Even if the wireless LAN is on, IEEE802.11a may be set to disable. If IEEE802.11a is to be used, change this setting to enable. (➔ page 65)

● This computer uses channels 1 through 11[*4] when using IEEE802.11b/g. Check the channel being used by the access point.

[*4] 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.

Wireless Switch
OFF ⇦⇨ ON

Cannot communicate with the access point

● Using the following procedure, confirm whether the computer's protocol settings are correct (only when using TCP/IP).

① When ![icon] is displayed on the notification area:

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

When ![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 95) 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.

- IEEE802.11g or IEEE802.11b may be affected by a microwave oven or similar, reducing the communications speed while the microwave oven is in operation.
- IEEE802.11a is more susceptible to interference than IEEE802.11g or IEEE802.11b, 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 93).

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 93).

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 **F9** in the Setup Utility. This will restore the Setup Utility's settings to their default values (except the password settings).

is not displayed (or has disappeared)

- To display , 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 check mark for [Show icon in notification area when connected], and then click [OK].

You can check the computer's usage status in the PC Information Viewer. You may need this information when calling your technical support office for advice.

- This computer periodically records the management information including the hard disk information such as number of hours powered-on, number of times powered-on, internal temperature, replacement sector. The maximum data volume for each record is 750 byte.
  These information are only used for estimating the cause when the hard disk goes down by any possibility. They are never sent to outside via network nor used for any other purpose except for the purpose described the above.
  To disable the function, add the check mark for [Disable the automatic save function for management information history] in [Hard Disk Status] of PC Information Viewer, and click [OK].
- If you have not logged on with the administrator authority, some information will be displayed as [Not Found].
- As long as it is activated, the PC Information Viewer will appear in front of all other screens.

■ Running PC Information Viewer

① Click [start] - [All Programs] - [Panasonic] - [PC Information Viewer] - [PC Information Viewer].
   Click 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, and then click [Save].
- If automatic saving of the management information record has not been disabled, the records already recorded are also saved.

■ Save a copy of the screen to a file

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

① Display the screen you want to save.

② Press **Ctrl**+**Alt**+**F8**.

③ When 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 **Ctrl**+**Alt**+**F8**. Only an administrator can change this setting 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].
● Pictures are saved in 256 colors.
● When using an Extended Desktop:
A copy of the screen displayed on the primary device will be saved.

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.

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. Click 🛡️, and take the appropriate measures.

■ Use antivirus software (commercially available).

- 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.

■ Update Windows. (➔ page 101)

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.

● In the default setting, 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 Window's Help.

Update Windows

1 **Log on to Windows as an administrator.**

2 **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.

Technical Information

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:
<Only for model with Windows XP Professional>
c:\windows\docs, c:\windows\dotnetfx, c:\windows\i386, c:\windows\support\tools, c:\windows\valueadd
<Only for model with Windows XP Tablet PC Edition>
c:\windows\docs, c:\windows\dotnetfx, c:\windows\i386, c:\windows\support, c:\windows\valueadd, c:\windows\cmpnents

Windows Security

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

Network Connections and Communications Software

Close the communications software before using the power saving function.
- If the power saving function (standby or hibernation) is activated while communications software is used, the network connection may be interrupted, or the performance may be adversely affected. In this case, restart the computer.
- In a network environment, set the [System standby] and [System hibernates] settings to [Never].
  Click [start] - [Control Panel] - [Performance and Maintenance] - [Power Options] - [Power Schemes].

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